LBT-V50W

SERVICE MANUAL

AEP Model
UK Model
E Model

COMPONENT MODEL NAME FOR LBT-V50W STEREO SYSTEM.

	AEP	UK	E
AMPLIFIER	TA-V50		
TUNER	ST-V50L		ST-V50S
CASSETTE DECK	TC-V50W		
TURNTABLE SYSTEM	——	PS-LX50	——
SPEAKER SYSTEM	——	——	APM-510

- See the respective SERVICE MANUALS issued separately for detailed informations of each component.

Part No.	Description
1-501-351-21	ANTENNA, FEEDER
1-557-842-21	CORD (WITH CONNECTOR)
1-556-650-21	(E)...CORD, SPEAKER CONNECTION
3-312-970-01	(ST-V50L,ST-V50S,TC-V50W,TA-V50) ......SHEET, PROTECTION
4-879-798-00	(PS-LX50)......SHEET, PROTECTION
4-914-447-01	(APM-510)......SHEET, PROTECTION
3-701-630-01	BAG, POLYETHYLENE (FOR PRINT & ACCESSORY)
3-701-634-00	(PS-LX50)...BAG, POLYETHYLENE FOR TURN TABLE
3-765-148-11	(AEP,E)...MANUAL. INSTRUCTION
3-765-148-41	(AEP).....MANUAL. INSTRUCTION
3-765-148-51	(UK)......MANUAL. INSTRUCTION
4-887-948-00	(PS-LX50)...HOLDER. TURN TABLE
4-909-308-01	FOOT
4-914-054-01	(E)...SPACER (FOR SPEAKER)
4-909-068-01	(PS-LX50)...CUSHION (L)
4-909-069-01	(PS-LX50)...CUSHION (R)
4-914-055-01	(AEP)...INDIVIDUAL CARTON
4-914-056-01	(UK)....INDIVIDUAL CARTON
4-914-057-01	(E).....INDIVIDUAL CARTON
3-325-013-01	(TC-V50W)...........CUSHION
4-914-037-01	(ST-V50L,ST-V50S)...CUSHION
4-914-038-01	(TA-V50)............CUSHION
4-914-417-01	(APM-510)...........CUSHION

STEREO COMPONENT SYSTEM

SONY

MICROFILM
9-952-193-11

Sony Corporation

English
86D0449-1
Printed in Japan

© 1986

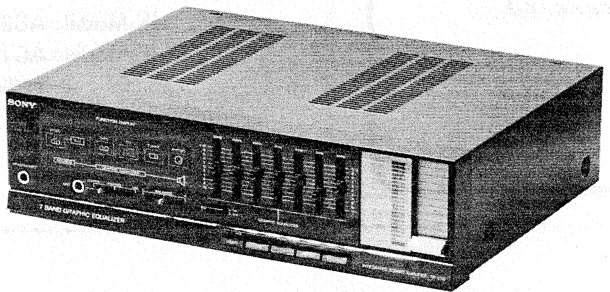
AUD

1981

TA-V50

SERVICE MANUAL

AEP Model
UK Model
E Model



TA-V50 IS AMPLIFIER UNIT OF "LBT-V50W".

SPECIFICATIONS

Continuous RMS power output (AEP, G-AEP, UK model)
50 + 50 watts
(6 ohms, at 1 kHz, 0.5% THD)
40 + 40 watts
(6 ohms, 40 Hz – 20 kHz, 0.5% THD)

Music power output (E model)
160 W (6 ohms, 5% THD)

Peak music power output (E model)
320 W (6 ohms)

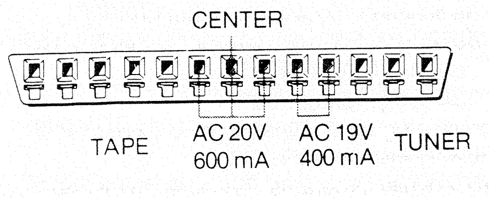
Inputs	Sensitivity	Impedance
PHONO (phono jacks)	2 mV	50 kilohms
CD, VIDEO (AUDIO IN) (phono jacks)	150 mV	50 kilohms
MIC (phone jack)	2 mV	20 kilohms

Outputs

HEADPHONES (stereo phone jack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

SYSTEM CONTROL 1 terminal (13-pin)

SYSTEM CONTROL 2 terminal (13-pin)



Frequency response
PHONO: RIAA curve ± 0.5 dB
CD, VIDEO (AUDIO IN):
15 Hz – 50 kHz $^{+0}_{-3}$ dB
MIC: 100 Hz – 10 kHz $^{+0}_{-6}$ dB

MICROFILM

Power requirements:	AEP model:	220V ac, 50/60Hz
	UK model:	240V ac, 50/60Hz
	E model:	120, 220 or 240V ac adjustable, 50/60Hz
Power consumption:	AEP model:	110 watts
	UK model:	230 watts
	E model:	110 watts
	AEP model:	2 unswitched, 100 watts max.
	UK model:	2 switched, 100 watts max.
	E model:	2 unswitched, 100 watts max.
Dimentions:		Approx. 355x98x290 mm (w/h/d) (14x4$^{1}/_{8}$x9$^{7}/_{8}$ inches) incl. projecting parts and controls
Weight:		Approx. 5.8 kg (11 lb 15 oz) net

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

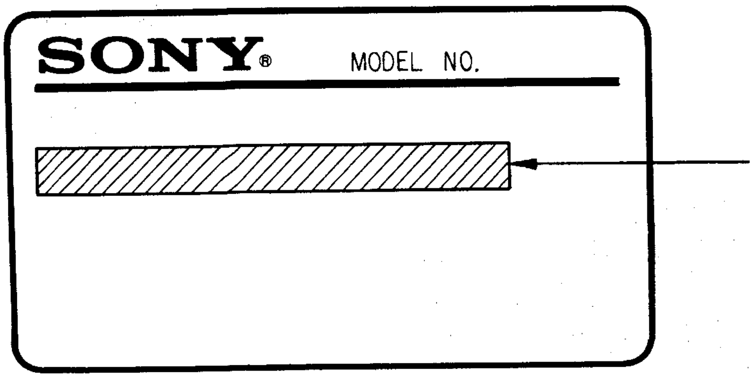
INTEGRATED STEREO AMPLIFIER

SONY®

AUD 1981

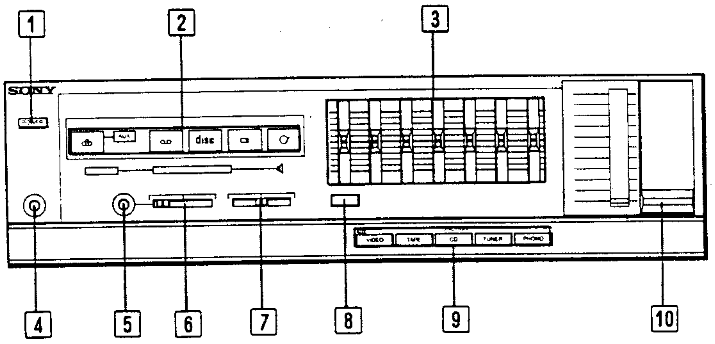
MODEL INDENTIFICATION

– Specification Label –



AEP, G-AEP Model: AC220V 50/60Hz 110W
UK Model: AC240V 50/60Hz 230W
E Model: AC120/220/240V 50/60Hz 110W

FUNCTION OF CONTROLS



1 POWER switch
Press the switch (⏏ ON) to turn on the power of the stereo system. To turn it off, press the switch again (⊓ OFF).

2 FUNCTION indicators
The indicator lights to show the input source in use.

3 GRAPHIC EQUALIZER controls
To equalize the listening or recording sound, slide each control upwards to increase the level of the frequency band, and downwards to decrease the level.

100 Hz: Use to boost or cut the bass.
250 Hz: Use to adjust the middle and low frequency range.
500 Hz: Use to adjust the middle frequency range.
1 kHz: Use to provide more presence of vocals.
3 kHz: Use to adjust the brightness of sound.
6 kHz: Use to adjust the middle and high frequency range.
14 kHz: This control effects general treble. Slide downwards to reduce high frequency noise, such as tape hiss.

To record or listen to the sound with the original tone quality, set all the controls at their center positions.

4 HEADPHONES jack (stereo phone jack)

5 MIC (microphone) jack (phone jack)
Connect a microphone for microphone mixing.

6 MIXING control
Adjusts the balance between the volume of the microphone and the program source. Slide the control towards MIC to increase microphone volume, and towards SOURCE to increase source volume.
When not in use for microphone mixing, slide this control fully to SOURCE.

7 BALANCE control
Adjusts the balance of the left and right channel output levels.

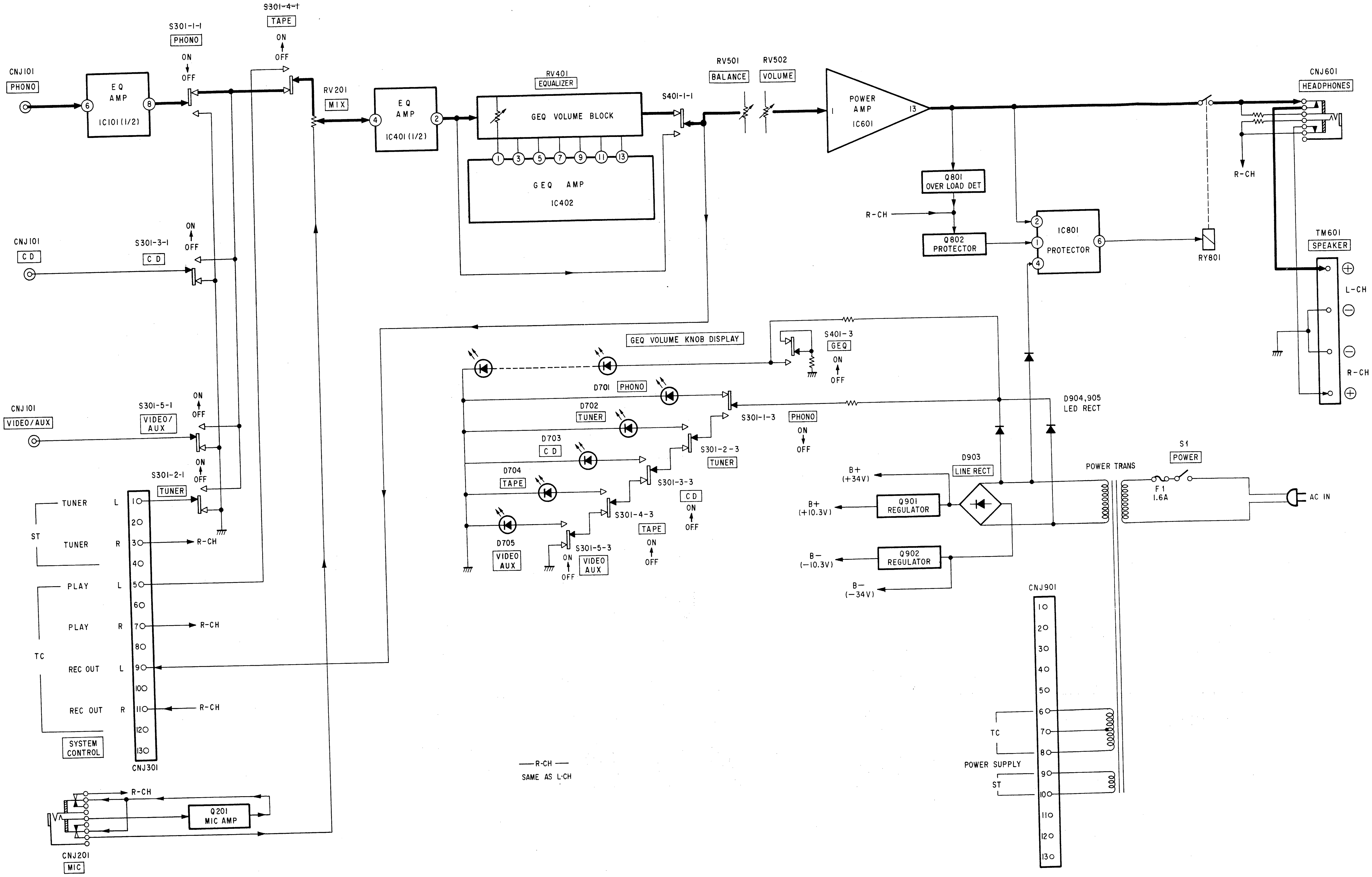
8 GRAPHIC EQUALIZER switch
Depress this switch (⏏ ON) to activate the graphic equalizer controls. Press it again (⊓ OFF) to obtain the original tone quality.

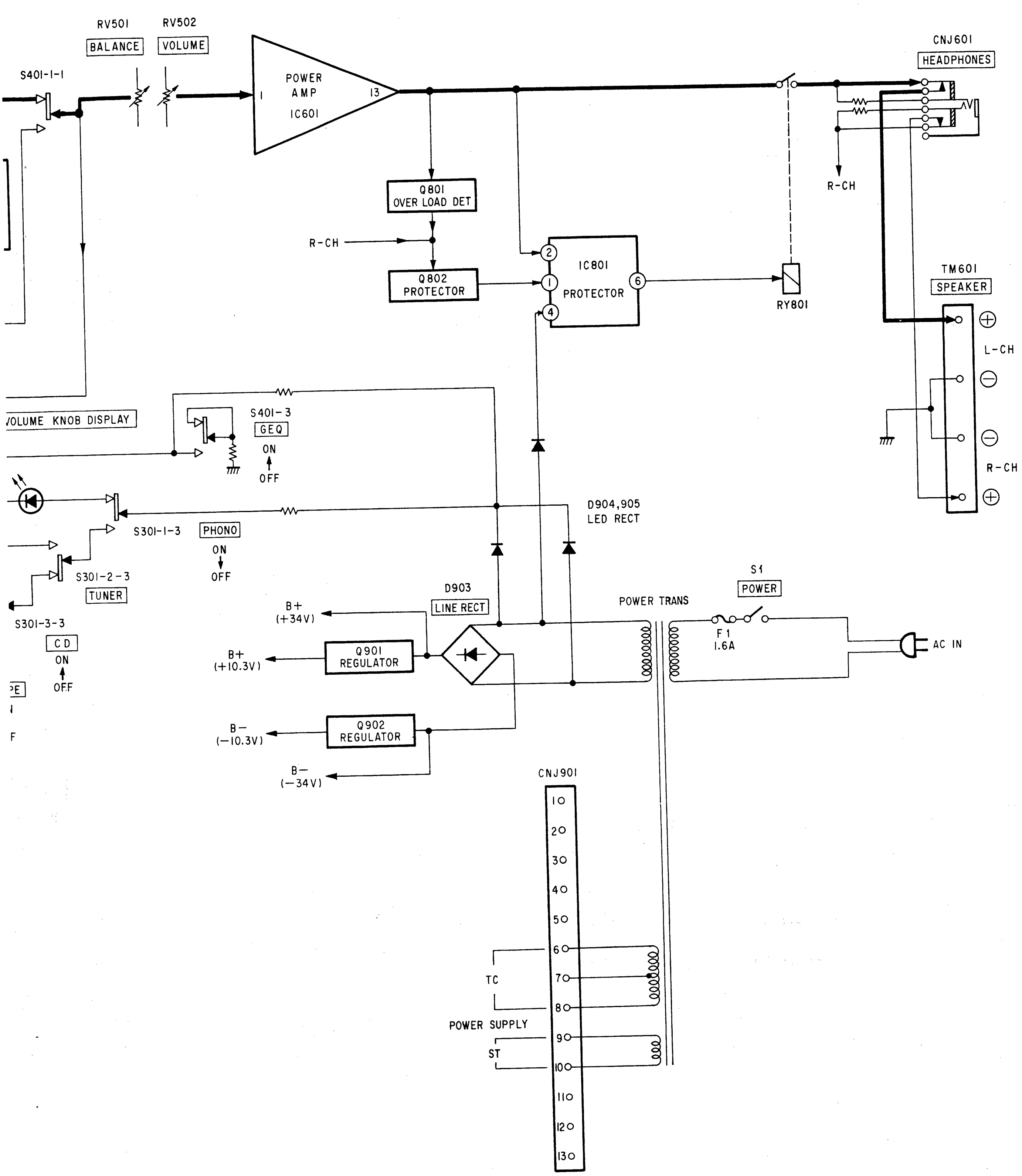
9 FUNCTION select buttons
Press the desired program source button.

VIDEO/AUX: For video programs or another source connected to VIDEO inputs.
TAPE: For the tape programs.
CD: For the programs connected to CD inputs.
TUNER: For radio programs.
PHONO: For disc programs connected to PHONO inputs.

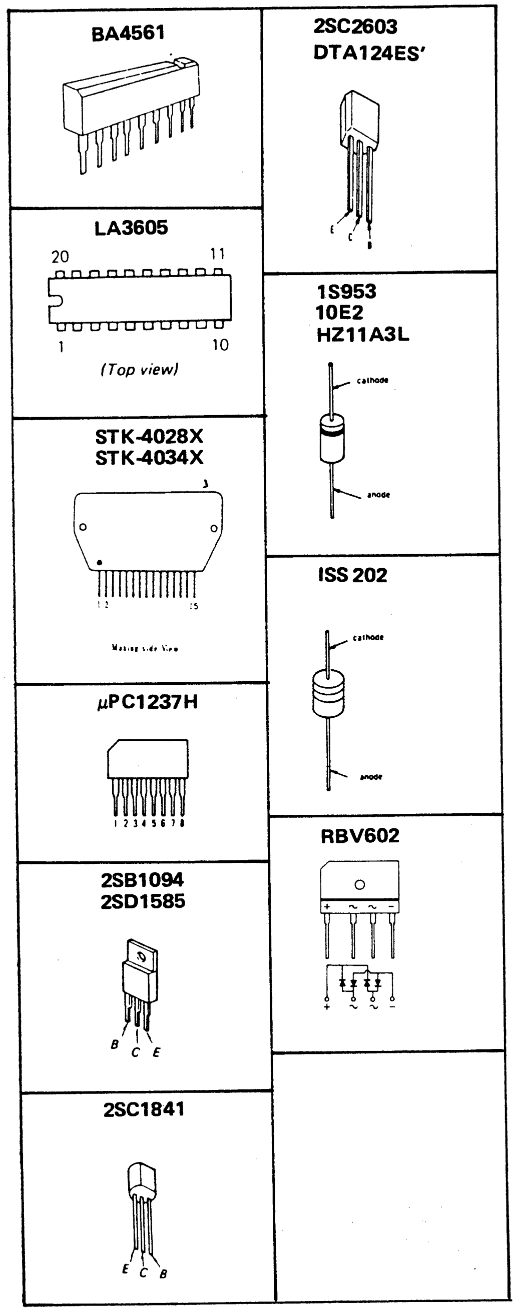
10 VOLUME control

SECTION 1
BLOCK DIAGRAM


S301-4-1
TAPE
ON
OFF
S301-1-1
PHONO
ON
OFF
CNJ101
PHONO
EQ
AMP
IC101 (1/2)
⑥
⑧
RV201
MIX
EQ
AMP
IC401 (1/2)
④
②
RV401
EQUALIZER
GEQ VOLUME BLOCK
① ③ ⑤ ⑦ ⑨ ⑪ ⑬
GEQ AMP
IC402
S401-1-1
RV501
BALANCE
RV502
VOLUME
POWER
AMP
IC601
1
13
Q801
OVER LOAD DET
R-CH
Q802
PROTECTOR
IC801
PROTECTOR
②
①
④
⑥
RY801
CNJ601
HEADPHONES
R-CH
TM601
SPEAKER
L-CH
R-CH
CNJ101
CD
S301-3-1
CD
ON
OFF
GEQ VOLUME KNOB DISPLAY
S401-3
GEQ
ON
OFF
D701
PHONO
D702
TUNER
D703
CD
D704
TAPE
D705
VIDEO
AUX
S301-1-3
PHONO
ON
OFF
S301-2-3
TUNER
S301-3-3
CD
ON
OFF
S301-4-3
TAPE
ON
OFF
S301-5-3
VIDEO
AUX
ON
OFF
D904,905
LED RECT
CNJ101
VIDEO/AUX
S301-5-1
VIDEO/
AUX
ON
OFF
S301-2-1
TUNER
ON
OFF
ST
TUNER L
TUNER R
TC
PLAY L
PLAY R
REC OUT L
REC OUT R
SYSTEM
CONTROL
CNJ301
1 2 3 4 5 6 7 8 9 10 11 12 13
R-CH
R-CH
R-CH
D903
LINE RECT
B+
(+34V)
B+
(+10.3V)
Q901
REGULATOR
B−
(−10.3V)
Q902
REGULATOR
B−
(−34V)
POWER TRANS
S1
POWER
F1
1.6A
AC IN
CNJ901
1 2 3 4 5 6 7 8 9 10 11 12 13
TC
POWER SUPPLY
ST
R-CH
SAME AS L-CH
R-CH
Q201
MIC AMP
CNJ201
MIC


RV501
BALANCE
RV502
VOLUME
S401-1-1
POWER AMP
IC601
1
13
CNJ601
HEADPHONES
R-CH
Q801
OVER LOAD DET
R-CH
Q802
PROTECTOR
IC801
PROTECTOR
2
1
4
6
RY801
TM601
SPEAKER
L-CH
R-CH
OLUME KNOB DISPLAY
S401-3
GEQ
ON
OFF
D904,905
LED RECT
S301-1-3
PHONO
ON
OFF
S301-2-3
TUNER
S301-3-3
CD
ON
OFF
D903
LINE RECT
POWER TRANS
S1
POWER
F1
1.6A
AC IN
B+
(+34V)
B+
(+10.3V)
Q901
REGULATOR
B−
(−10.3V)
Q902
REGULATOR
B−
(−34V)
CNJ901
1
2
3
4
5
6
7
8
9
10
11
12
13
TC
POWER SUPPLY
ST

SEMICONDUCTORS


BA4561
2SC2603
DTA124ES'
LA3605
20
11
1
10
(Top view)
1S953
10E2
HZ11A3L
cathode
anode
STK-4028X
STK-4034X
ISS 202
cathode
anode
µPC1237H
1 2 3 4 5 6 7 8
RBV602
2SB1094
2SD1585
B C E
2SC1841
E C B

Note on Schematic Diagram.

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- ——▶—— : signal path (FUNCTION PHONO)
  —·—·— : signal path (GEQ ON)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Components for right channel have same values as for left channel. Reference numbers are coded from
- —▭— : nonflammable resistor.
- **Switch**

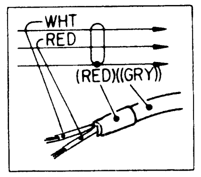
Ref. No.	Switch	Position
S301	FUNCTION	PHONO
S401	EQ	ON

- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a VOM (50 kΩ/V).

Note on Mounting Diagram

Note:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)(GRY)

- ○—— : parts extracted from the component side.

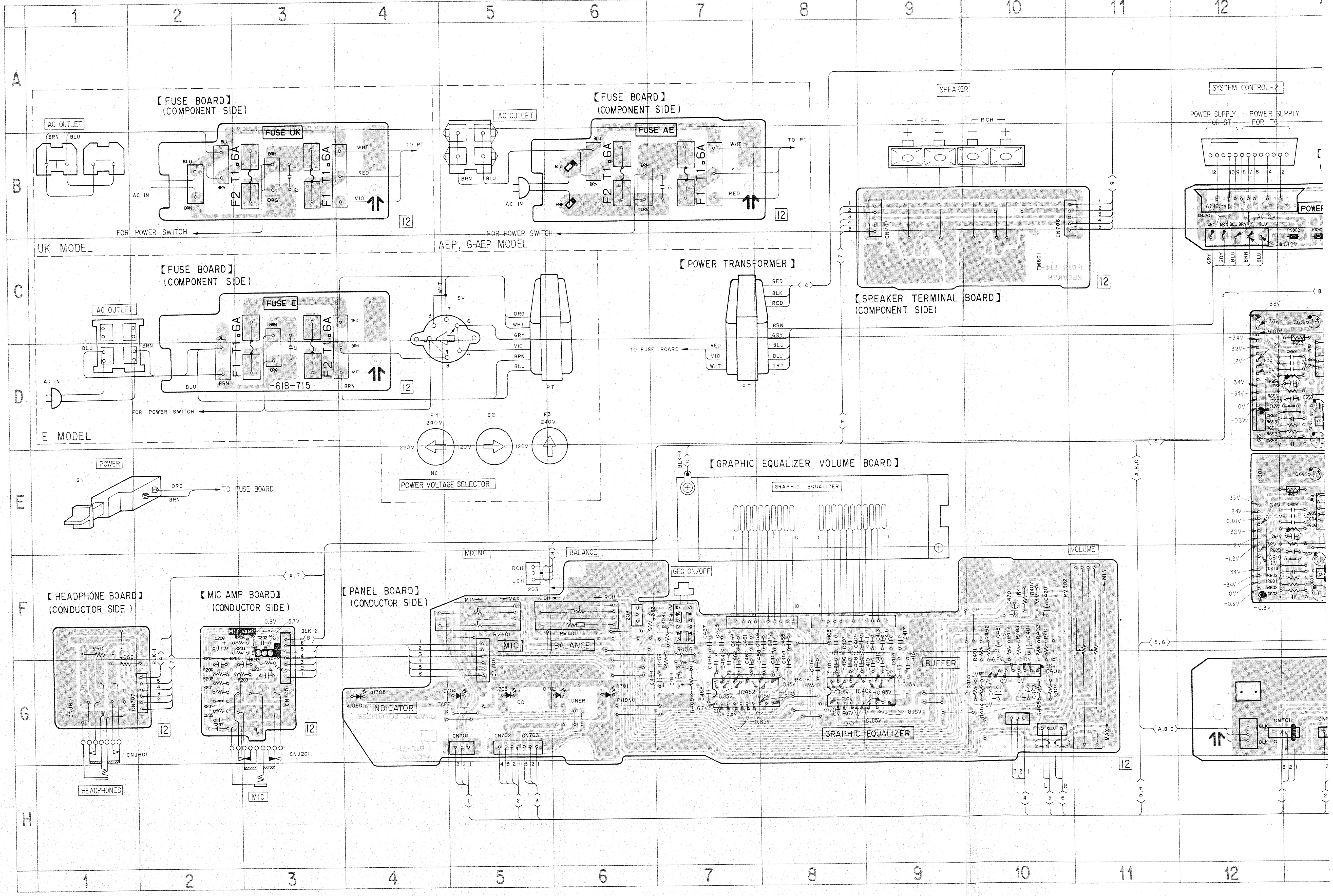
SECTION 2
DIAGRAMS

- Refer to page 5 for semiconductor lead layouts.
- Refer to page 5 for notes.

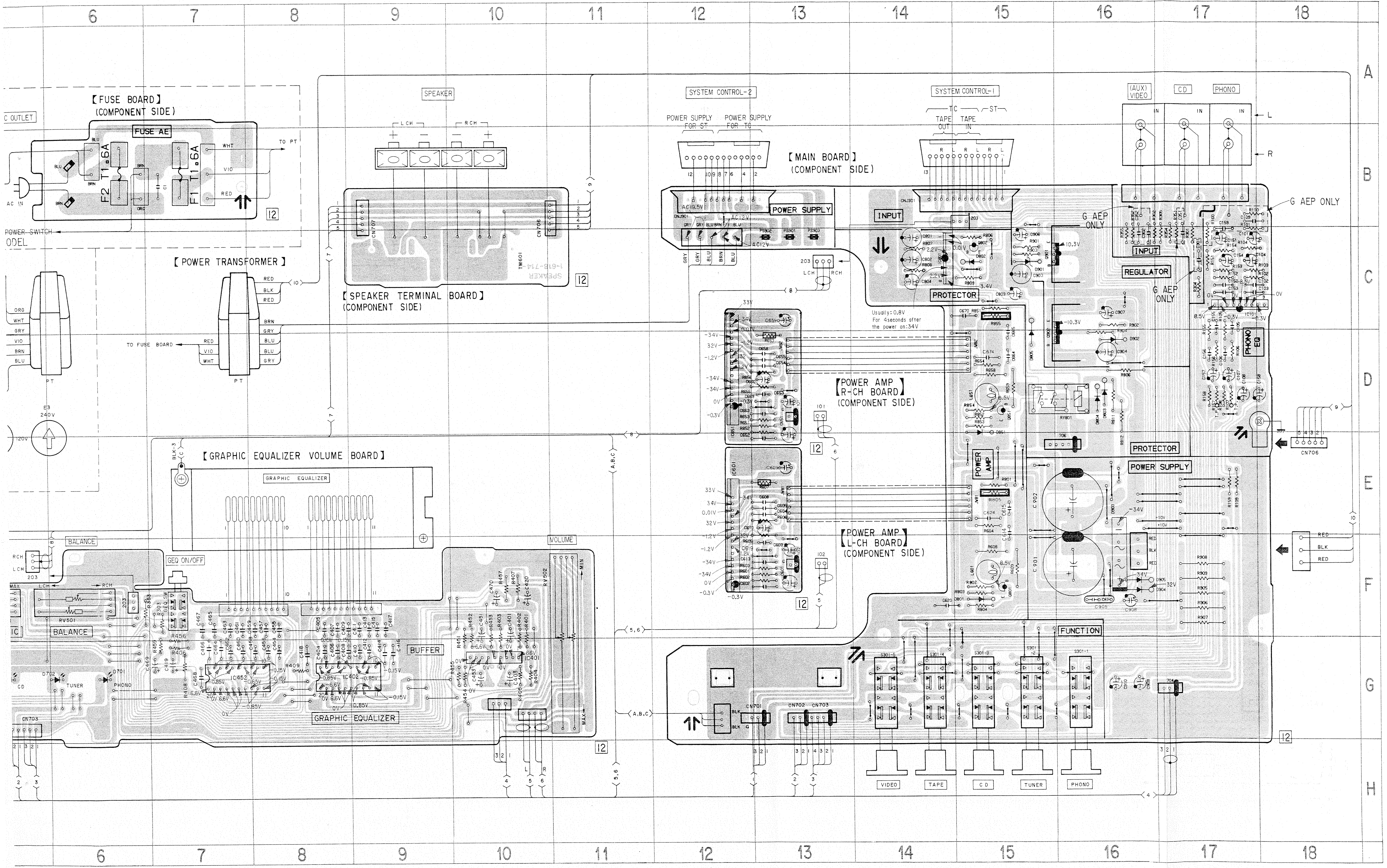
2-1. MOUNTING DIAGRAM
– Conductor Side –

● SEMICONDUCTOR LOCATION

Ref. No.	Location
IC101	C-17
IC401	G-10
IC402	G-8
IC452	G-7
IC601	E-12
IC651	D-12
IC801	C-14
Q201	F-3
Q801	F-15
Q802	C-15
Q851	D-15
Q901	C-15
Q902	D-15
D701	G-6
D702	G-6
D703	G-5
D704	G-5
D705	G-4
D801	F-15
D802	C-15
D803	D-16
D804	D-16
D805	D-15
D851	D-15
D901	C-15
D902	D-16
D903	F-16
D904	F-16
D905	F-16

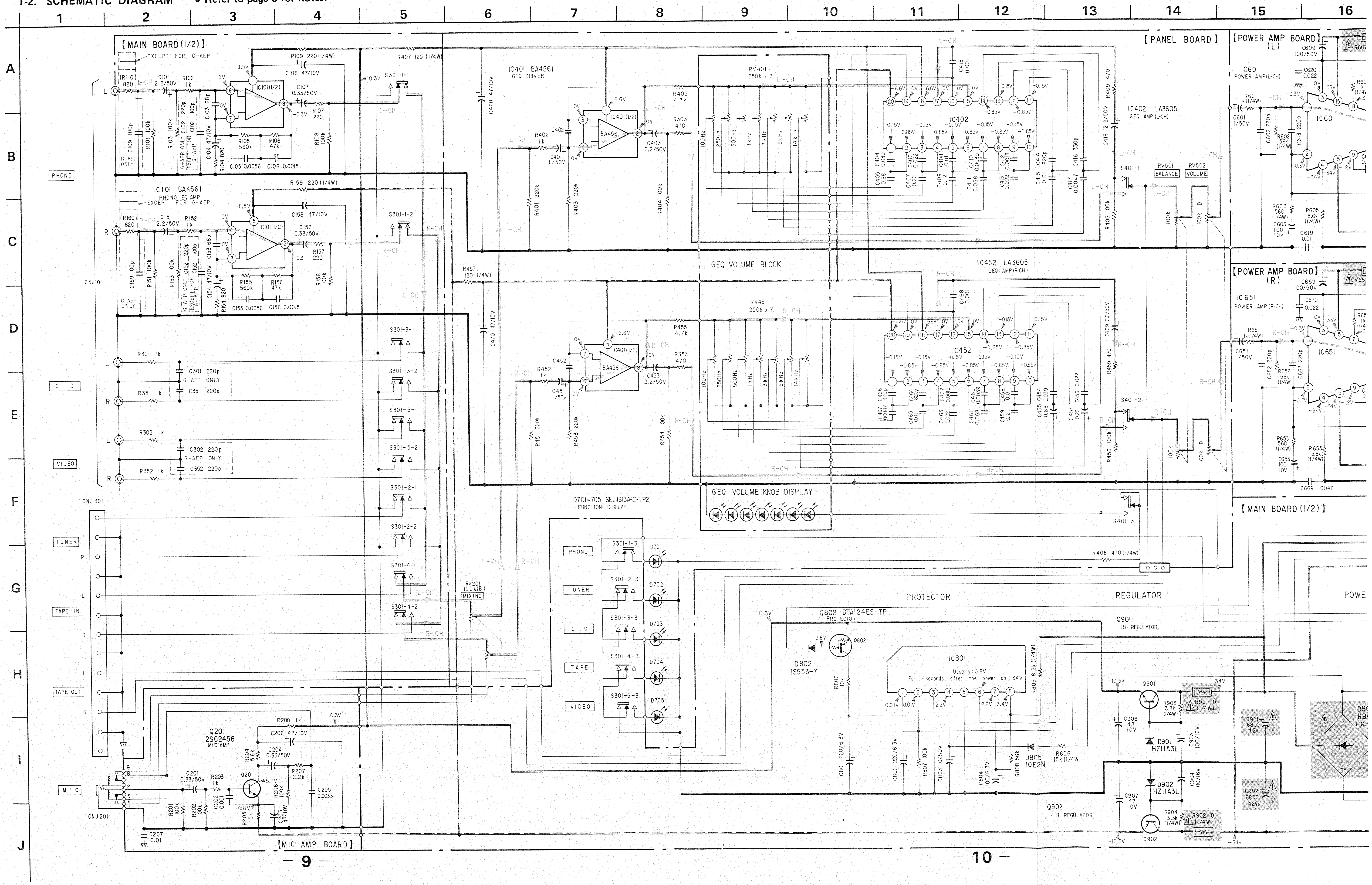


1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
[FUSE BOARD] (COMPONENT SIDE)
FUSE UK
AC OUTLET
BRN BLU
AC IN
TO PT
WHT RED VIO
F2 T1.6A
F1 T1.6A
FOR POWER SWITCH
UK MODEL
[FUSE BOARD] (COMPONENT SIDE)
FUSE AE
AEP, G-AEP MODEL
[FUSE BOARD] (COMPONENT SIDE)
FUSE E
1-618-715
E MODEL
ORG WHT GRY VIO BRN BLU
PT
E1 240V
E2
E3 240V
220V
120V
NC
POWER VOLTAGE SELECTOR
POWER
S1
TO FUSE BOARD
[POWER TRANSFORMER]
RED BLK RED BRN GRY BLU BLU GRY
TO FUSE BOARD
SPEAKER
LCH RCH
CN707
CN706
[SPEAKER TERMINAL BOARD] (COMPONENT SIDE)
SYSTEM CONTROL-2
POWER SUPPLY FOR ST
POWER SUPPLY FOR TC
AC19.5V
AC12V
BLK-3
[GRAPHIC EQUALIZER VOLUME BOARD]
GRAPHIC EQUALIZER
MIXING
BALANCE
GEQ ON/OFF
VOLUME
RCH LCH
203
[HEADPHONE BOARD] (CONDUCTOR SIDE)
CNJ601
R610 R660
CN707
HEADPHONES
[MIC AMP BOARD] (CONDUCTOR SIDE)
MIC AMP
0.8V 5.7V
BLK-2
CN705
CNJ201
MIC
[PANEL BOARD] (CONDUCTOR SIDE)
MIN MAX
RV201
MIC
RV501
BALANCE
BUFFER
RV502
IC452
IC402
IC401
GRAPHIC EQUALIZER
INDICATOR
VIDEO
D705 D704 D703 D702 D701
TAPE CD TUNER PHONO
CN701 CN702 CN703
1-618-711
IC601
IC651
CN701
BLK


【FUSE BOARD】
(COMPONENT SIDE)
FUSE AE
F2 T1.6A
F1 T1.6A
AC OUTLET
AC IN
TO PT
POWER SWITCH
【POWER TRANSFORMER】
TO FUSE BOARD
PT
E3
240V
120V
SPEAKER
L CH
R CH
【SPEAKER TERMINAL BOARD】
(COMPONENT SIDE)
TM601
SYSTEM CONTROL-2
POWER SUPPLY FOR ST
POWER SUPPLY FOR TC
【MAIN BOARD】
(COMPONENT SIDE)
POWER SUPPLY
SYSTEM CONTROL-1
TC
ST
TAPE OUT
TAPE IN
INPUT
PROTECTOR
Usually: 0.8V
For 4seconds after the power on: 34V
(AUX) VIDEO
CD
PHONO
IN
L
R
G AEP ONLY
REGULATOR
PHONO EQ
CN706
【POWER AMP】
【R-CH BOARD】
(COMPONENT SIDE)
【POWER AMP】
【L-CH BOARD】
(COMPONENT SIDE)
POWER AMP
POWER SUPPLY
PROTECTOR
RY801
【GRAPHIC EQUALIZER VOLUME BOARD】
GRAPHIC EQUALIZER
BALANCE
GEQ ON/OFF
RV501
BUFFER
VOLUME
RV502
MIN
MAX
IC452
IC402
IC401
CN703
D702
D701
CD
TUNER
PHONO
FUNCTION
S301-5
S301-4
S301-3
S301-2
S301-1
CN701
CN702
CN703
VIDEO
TAPE
CD
TUNER
PHONO
RED
BLK
RED
-34V
+10V
33V
34V
0.01V
32V
-1.2V
0V
-0.3V
10.3V
8.5V
6
7
8
9
10
11
12
13
14
15
16
17
18
A
B
C
D
E
F
G
H

1-2. SCHEMATIC DIAGRAM

• Refer to page 5 for notes.


1
2
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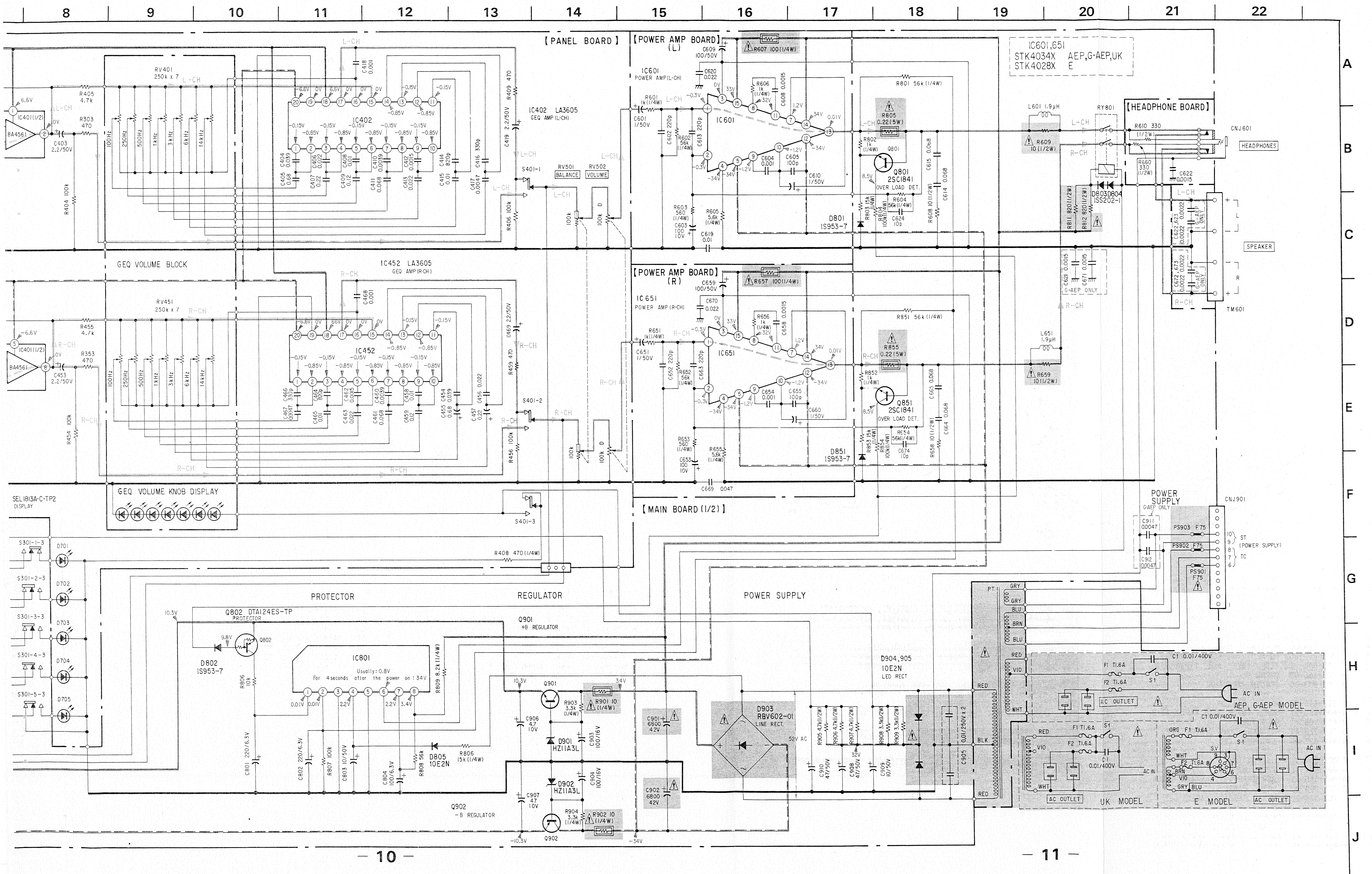
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
[MAIN BOARD (1/2)]
EXCEPT FOR G-AEP
PHONO
CNJ101
IC101 BA4561 PHONO EQ AMP
IC101(1/2)
R109 220 (1/4W)
R159 220 (1/4W)
C108 47/10V
C158 47/10V
C107 0.33/50V
C157 0.33/50V
R107 220
R157 220
R105 560k
R106 47k
R155 560k
R156 47k
C105 0.0056
C106 0.0015
C155 0.0056
C156 0.0015
C101 2.2/50V
C151 2.2/50V
R102 1k
R152 1k
G-AEP ONLY
C D
VIDEO
R301 1k
R351 1k
R302 1k
R352 1k
C301 220p
C351 220p
C302 220p
C352 220p
G-AEP ONLY
CNJ301
TUNER
TAPE IN
TAPE OUT
MIC
CNJ201
Q201 2SC2458 MIC AMP
R206 1k
C206 47/10V
C204 0.33/50V
R207 2.2k
C205 0.0033
C201 0.33/50V
R203 1k
C202 0.001
R201 100k
R202 100k
R204 5.6k
R205 15k
R206 100k
C203 47/10V
C207 0.01
[MIC AMP BOARD]
R407 120 (1/4W)
R457 120 (1/4W)
S301-1-1
S301-1-2
S301-3-1
S301-3-2
S301-5-1
S301-5-2
S301-2-1
S301-2-2
S301-4-1
S301-4-2
RV201 100k(B) MIXING
C420 47/10V
C470 47/10V
IC401 BA4561 GEQ DRIVER
IC401(1/2)
BA4561
R402 1k
R452 1k
C401 1/50V
C451 1/50V
C402
C452
R401 220k
R403 220k
R404 100k
R451 220k
R453 220k
R454 100k
R405 4.7k
R455 4.7k
R303 470
R353 470
C403 2.2/50V
C453 2.2/50V
RV401 250k x 7
RV451 250k x 7
100Hz
250Hz
500Hz
1kHz
3kHz
6kHz
14kHz
GEQ VOLUME BLOCK
GEQ VOLUME KNOB DISPLAY
D701~705 SEL1813A-C-TP2 FUNCTION DISPLAY
PHONO
TUNER
C D
TAPE
VIDEO
D701
D702
D703
D704
D705
IC402 LA3605 GEQ AMP (L-CH)
IC452 LA3605 GEQ AMP (R-CH)
C418 0.001
C468 0.001
C419 2.2/50V
C469 2.2/50V
R409 470
R459 470
R406 100k
R456 100k
S401-1
S401-2
S401-3
RV501 BALANCE
RV502 VOLUME
R408 470 (1/4W)
[PANEL BOARD]
[POWER AMP BOARD] (L)
[POWER AMP BOARD] (R)
IC601 POWER AMP (L-CH)
IC651 POWER AMP (R-CH)
C609 100/50V
C659 100/50V
C620 0.022
C670 0.022
R601 1k (1/4W)
R651 1k (1/4W)
C601 1/50V
C651 1/50V
R602 56k (1/4W)
R652 56k (1/4W)
R603 560 (1/4W)
R653 560 (1/4W)
R605 5.6k (1/4W)
R655 5.6k (1/4W)
C603 100 10V
C653 100 10V
C619 0.01
C669 0.047
[MAIN BOARD (1/2)]
PROTECTOR
Q802 DTA124ES-TP PROTECTOR
D802 1S953-7
R806 10k
IC801
Usually: 0.8V For 4 seconds after the power on: 34V
R809 8.2k (1/4W)
C801 220/6.3V
C802 220/6.3V
R807 100k
C803 10/50V
C804 100/6.3V
R808 56k
D805 10E2N
R806 15k (1/4W)
REGULATOR
Q901 +B REGULATOR
Q902 -B REGULATOR
R903 3.3k (1/4W)
R901 10 (1/4W)
R904 3.3k (1/4W)
R902 10 (1/4W)
C906 47 10V
C907 47 10V
D901 HZ11A3L
D902 HZ11A3L
C903 100/16V
C904 100/16V
C901 6800 42V
C902 6800 42V
POWE
L-CH
R-CH
10.3V
-10.3V
34V
-34V


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
[PANEL BOARD]
[POWER AMP BOARD] (L)
[POWER AMP BOARD] (R)
[HEADPHONE BOARD]
[MAIN BOARD (1/2)]
IC601,651
STK4034X AEP,G-AEP,UK
STK4028X E
IC401(1/2) BA4561
IC402 LA3605 GEQ AMP (L-CH)
IC452 LA3605 GEQ AMP (R-CH)
RV401 250k x 7
RV451 250k x 7
100Hz
250Hz
500Hz
1kHz
3kHz
6kHz
14kHz
GEQ VOLUME BLOCK
GEQ VOLUME KNOB DISPLAY
SEL1813A-C-TP2 DISPLAY
RV501 BALANCE
RV502 VOLUME
S401-1
S401-2
S401-3
IC601 POWER AMP (L-CH)
IC651 POWER AMP (R-CH)
R607 100(1/4W)
R657 100(1/4W)
R805 0.22(5W)
R855 0.22(5W)
Q801 2SC1841 OVER LOAD DET.
Q851 2SC1841 OVER LOAD DET.
D801 1S953-7
D851 1S953-7
R801 56k(1/4W)
R851 56k(1/4W)
L601 1.9μH
L651 1.9μH
R609 10(1/2W)
R659 10(1/2W)
RY801
D803 D804 1SS202-1
R811 820(1/2W)
R812 820(1/2W)
R610 330 (1/2W)
R660 330 (1/2W)
CNJ601
HEADPHONES
SPEAKER
TM601
L-CH
R-CH
G-AEP ONLY
POWER SUPPLY
CNJ901
PS903 F75
PS902 F75
PS901 F75
ST (POWER SUPPLY)
TC
S301-1-3
S301-2-3
S301-3-3
S301-4-3
S301-5-3
D701
D702
D703
D704
D705
R408 470(1/4W)
PROTECTOR
REGULATOR
POWER SUPPLY
Q802 DTA124ES-TP PROTECTOR
D802 1S953-7
R806 10k
IC801
Usually: 0.8V
For 4 seconds after the power on: 34V
R809 8.2k(1/4W)
D805 10E2N
R806 15k(1/4W)
C801 220/6.3V
C802 220/6.3V
R807 100k
C803 10/50V
C804 100/6.3V
R808 56k
Q901 +B REGULATOR
Q902 -B REGULATOR
R903 3.3k (1/4W)
R901 10 (1/4W)
R904 3.3k (1/4W)
R902 10 (1/4W)
D901 HZ11A3L
D902 HZ11A3L
C906 4.7 10V
C907 47 10V
C903 100/16V
C904 100/16V
C901 6800 42V
C902 6800 42V
D903 RBV602-01 LINE RECT.
D904,905 10E2N LED RECT
52V AC
R905 4.7k(1/2W)
R906 4.7k(1/2W)
R907 4.7k(1/2W)
R908 3.3k(1/2W)
R909 3.3k(1/2W)
C910 47/50V
C908 47/50V
C909 10/50V
C905 0.01/250V x 2
PT1
GRY
BLU
BRN
RED
VIO
WHT
BLK
ORG
C1 0.01/400V
F1 T1.6A
F2 T1.6A
S1
AC OUTLET
AC IN
AEP, G-AEP MODEL
UK MODEL
E MODEL
34V
-34V
10.3V
-10.3V

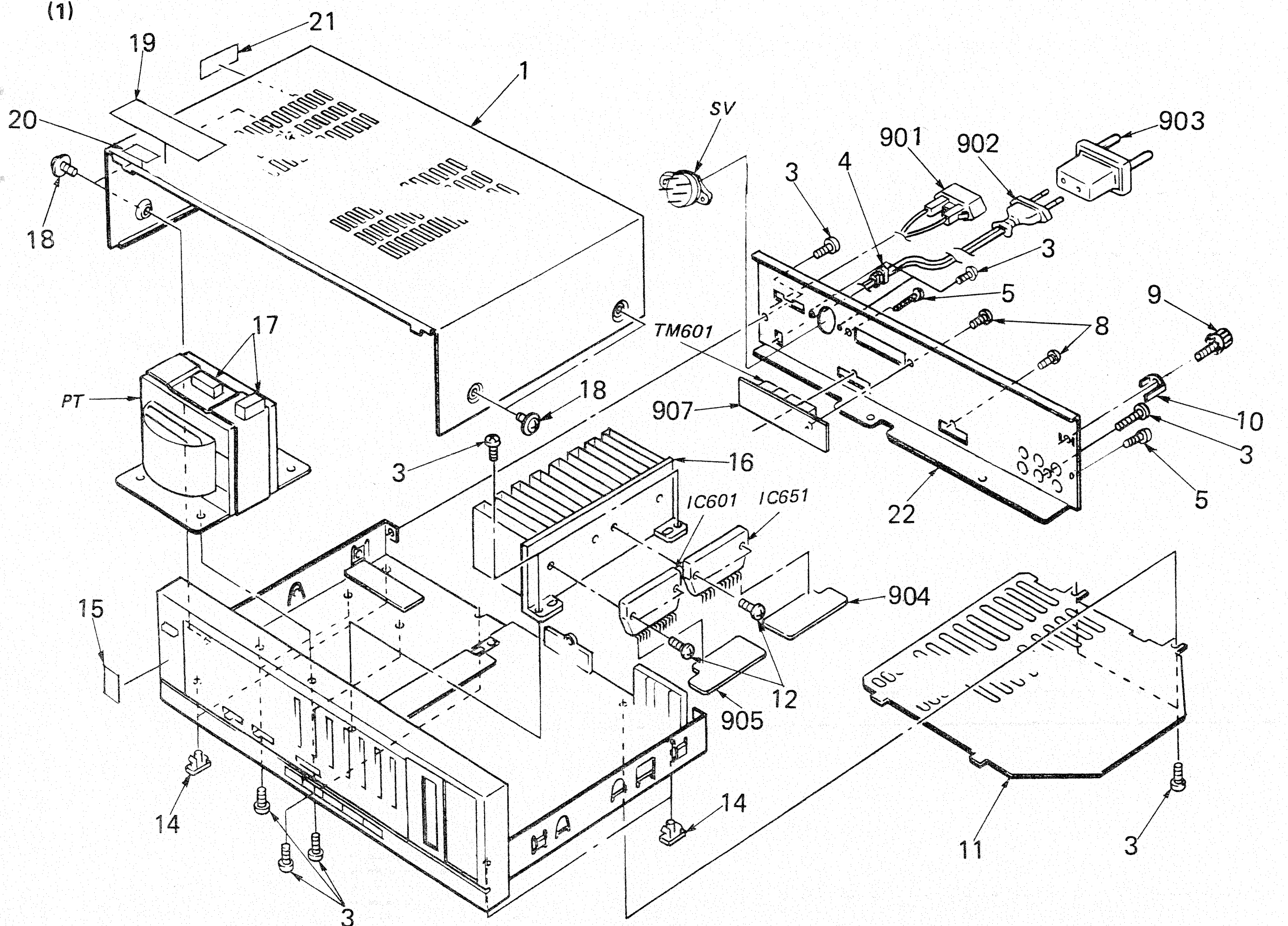
SECTION 3
EXPLODED VIEWS

NOTE:
The mechanical parts with no reference number in the exploded views are not supplied.

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

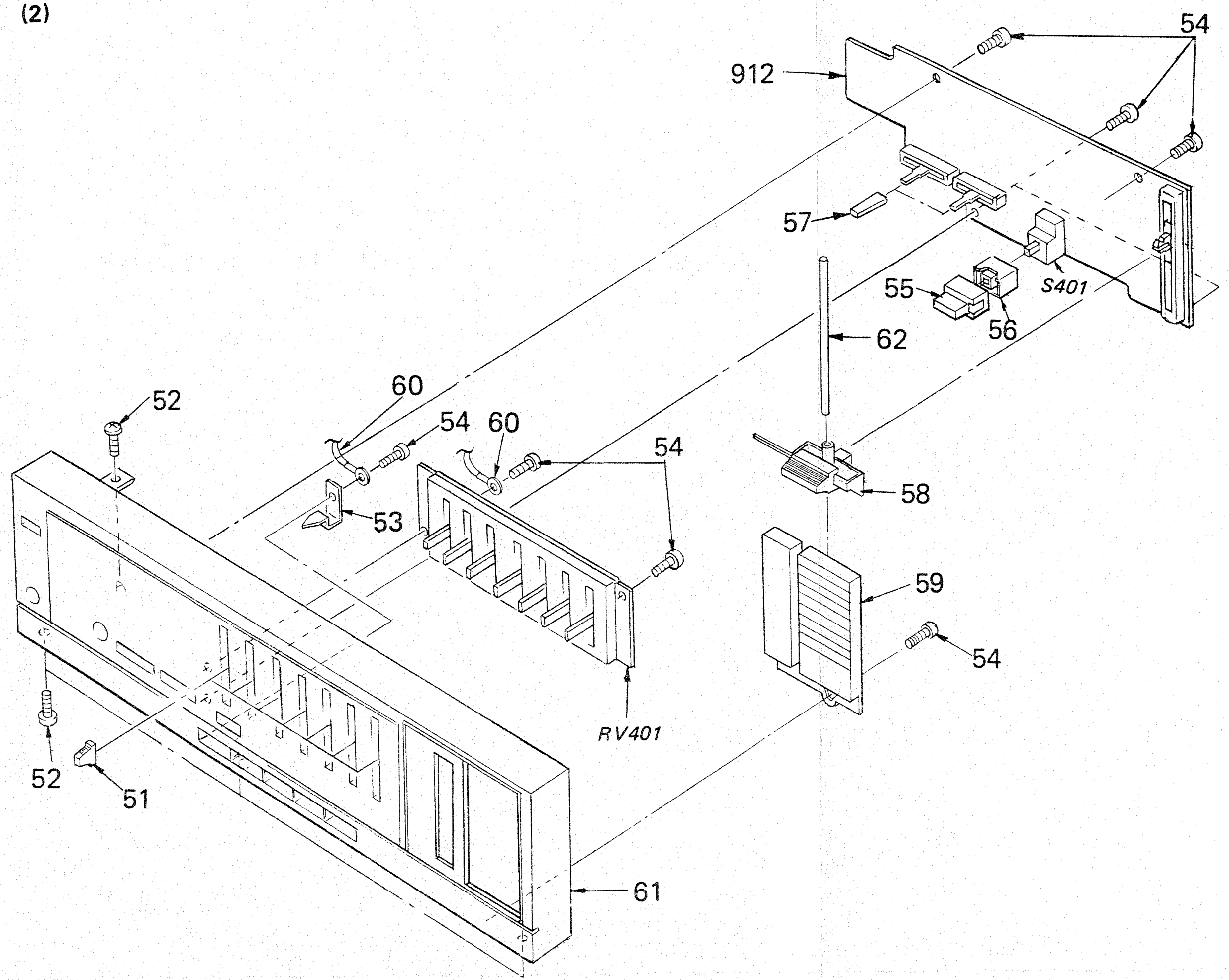
(1)



No.	Part No.	Description	Remarks
1	4-914-029-01	(G-AEP,E,UK)...CASE	
	4-914-029-11	(AEP)..........CASE	
3	7-685-752-04	SCREW +BVTT 3X8 (S)	
4	3-703-244-00	BUSHING (2104), CORD	
5	3-703-473-00	(G-AEP)...SCREW, TERMINAL	
8	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
9	3-706-165-00	SCREW	
10	3-701-993-00	SPACER, TERMINAL	
11	*4-912-117-21	PLATE, BOTTOM	
12	7-685-650-71	SCREW +BVTP 3X16 TYPE2 IT-3	
14	X-4907-603-1	FOOT ASSY	
15	3-703-710-41	STICKER, SONY SYMBOL (12)	
16	*4-914-027-11	HEAT SINK (E)	
17	4-807-369-01	CUSHION (A)	
18	4-886-821-01	SCREW, M3 CASE	
19	4-861-045-01	(AEP,G-AEP)...CAUTION LABEL	
20	3-701-690-01	(UK)...LABEL	
21	3-703-079-21	(UK)...CAUTION LABEL	
22	*4-914-033-01	(AEP).....PLATE (EXP), JACK	
	*4-914-033-11	(G-AEP)...PLATE (EXP), JACK	
	*4-914-033-21	(UK)......PLATE (EXP), JACK	
	*4-914-033-31	(E).......PLATE (EXP), JACK	

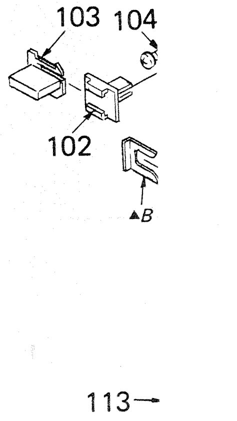
No.	Part No.	Description	Remarks
901	⚠.1-526-752-00	(E)..........OUTLET, AC (2 GANG)	
	⚠.1-526-751-00	(UK).........OUTLET, AC	
	⚠.1-526-794-11	(AEP,G-AEP)...OUTLET, AC	
902	⚠.1-551-188-XX	(E)..........CORD, POWER	
	⚠.1-534-817-XX	(AEP,G-AEP)...CORD, POWER	
	⚠.1-551-884-00	(UK)..........CORD, POWER	
903	⚠.1-526-565-00	(E)....AC PLUG ADAPTOR	
904	*1-618-717-11	PC BOARD, POWER IC (R)	
905	*1-618-716-11	PC BOARD, POWER IC (L)	
907	*1-618-714-11	PC BOARD, SPEAKER TERMINAL	
PT	⚠.1-448-483-11	(E).............TRANSFORMER, POWER	
PT	⚠.1-448-482-11	(AEP,G-AEP,UK)...TRANSFORMER, POWER	
SV	⚠1-526-576-51	(E).......... SELECTOR, POWER VOLTAGE	
TM601	1-536-705-21	TERMINAL BOARD (SP)	

(2)



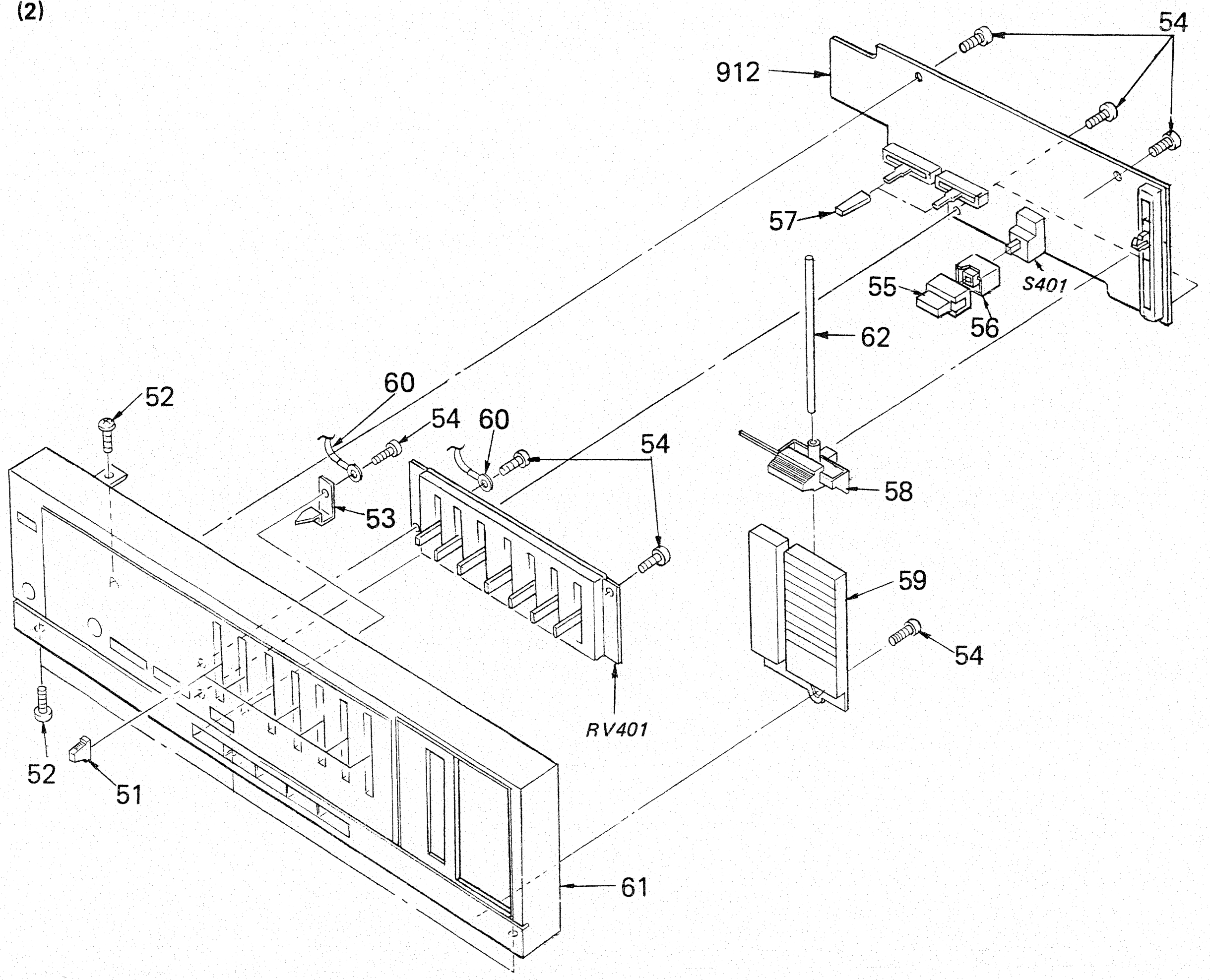
No.	Part No.	Description	Remarks
51	4-912-128-01	KNOB, SLIDE	
52	7-685-871-01	SCREW +BVTT 3X6 (S)	
53	4-914-059-01	PLATE GROUND	
54	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
55	3-318-909-81	KNOB, PUSH	
56	4-864-307-00	RING	
57	4-902-815-11	KNOB, EQUALIZER	
58	X-4914-008-1	KNOB ASSY, VOL	

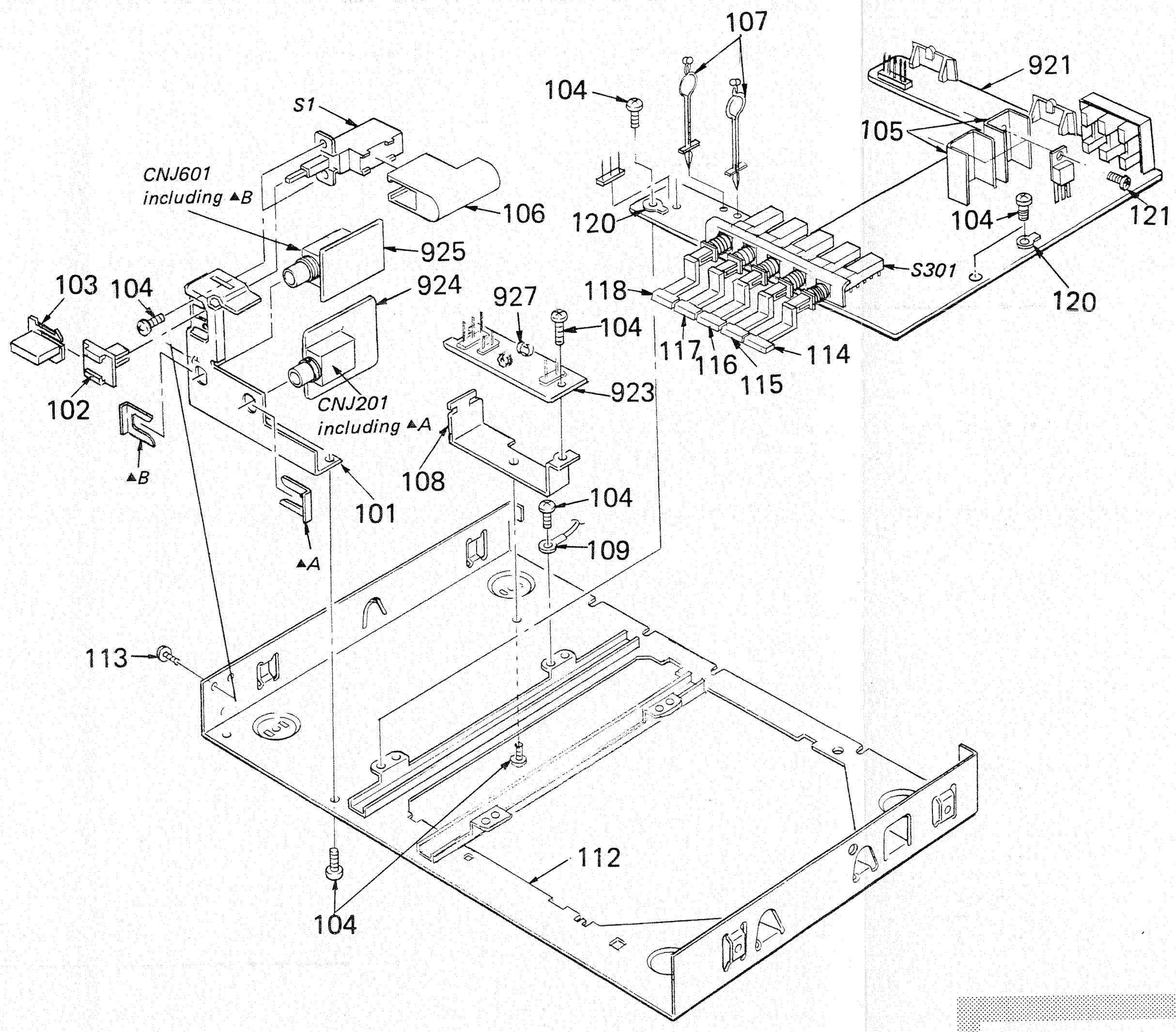
No.	Part No.	Description	Remarks
59	4-914-026-11	PLATE, VOL	
60	7-623-508-01	LUG⌀3MM	
61	X-4914-009-1	PANEL ASSY, FRONT	
62	*4-904-458-61	SHAFT	
912	*A-4358-172-A	MOUNTED PCB, GRAPHIC EQUALIZER	
RV401	1-237-200-11	RES, VAR, SLIDE (BLOCK TYPE)	
S401	1-570-632-11	SWITCH, PUSH (1 KEY)	



No.	Part
101	*4-91
102	4-90
103	4-87
104	7-68
105	*4-88
106	3-57
107	*4-30
108	*4-90
109	7-62
112	*X-49
113	7-68
114	4-91
115	4-91
116	4-91

(2)


912
54
57
S401
55
56
62
60
52
54
60
54
53
58
59
54
RV401
52
51
61


107
104
921
S1
105
CNJ601
including ▲B
106
120
104
121
925
S301
120
103
104
924
927
118
104
117
116
115
114
102
CNJ201
including ▲A
923
▲B
108
101
104
109
▲A
113
112
104

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks
51	4-912-128-01	KNOB, SLIDE	
52	7-685-871-01	SCREW +BVTT 3X6 (S)	
53	4-914-059-01	PLATE GROUND	
54	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
55	3-318-909-81	KNOB, PUSH	
56	4-864-307-00	RING	
57	4-902-815-11	KNOB, EQUALIZER	
58	X-4914-008-1	KNOB ASSY, VOL	

No.	Part No.	Description	Remarks
59	4-914-026-11	PLATE, VOL	
60	7-623-508-01	LUG⌀3MM	
61	X-4914-009-1	PANEL ASSY, FRONT	
62	*4-904-458-61	SHAFT	
912	*A-4358-172-A	MOUNTED PCB, GRAPHIC EQUALIZER	
RV401	1-237-200-11	RES, VAR, SLIDE (BLOCK TYPE)	
S401	1-570-632-11	SWITCH, PUSH (1 KEY)	

No.	Part No.	Description	Remarks
101	*4-914-016-01	BRACKET, SWITCH	
102	4-907-611-01	JOINT KNOB	
103	4-875-466-00	KNOB POWER	
104	7-685-871-01	SCREW +BVTT 3X6 (S)	
105	*4-880-403-21	HEAT SINK	
106	3-575-524-00	COVER, POWER SWITCH	
107	*4-308-851-00	PURSE LOCK	
108	*4-902-812-01	HOLDER, FUSE PC BOARD	
109	7-623-508-01	LUG⌀3MM	
112	*X-4914-004-1	CHASSIS ASSY	
113	7-682-545-04	SCREW +P 3X4	
114	4-914-039-01	KNOB (L), FUNCTION (PHONO)	
115	4-914-039-11	KNOB (L), FUNCTION (TUNER)	
116	4-914-039-21	KNOB (L), FUNCTION (CD)	

No.	Part No.	Description	Remarks
117	4-914-039-31	KNOB (L), FUNCTION (TAPE)	
118	4-914-039-41	KNOB (L), FUNCTION (VIDEO/AUX)	
120	4-870-539-00	PLATE, GROUND	
121	7-685-752-04	SCREW +BVTT 3X8 (S)	
921	*A-4388-516-A	MOUNTED PCB, MAIN	
923	*1-618-715-11	PC BOARD, FUSE	
924	*1-618-712-11	PC BOARD, MICROPHONE	
925	*1-618-713-11	PC BOARD, HEADPHONE	
927	1-533-183-11	HOLDER FUSE	
CNJ201	1-563-347-11	JACK, LARGE TYPE	
CNJ601	1-507-849-00	JACK, LARGE TYPE (HEADPHONES)	
S1	⚠ 1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)	
S301	1-570-614-11	SWITCH, PUSH (5 KEY)	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
· All resistors are in ohms.
· F : nonflammable

COILS
· MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	⚠.1-526-752-00	(E)..........OUTLET, AC (2 GANG)			
	⚠.1-526-751-00	(UK).........OUTLET, AC			
	⚠.1-526-794-11	(AEP,G-AEP)...OUTLET, AC			
902	⚠.1-551-188-XX	(E)..........CORD, POWER			
	⚠.1-534-817-XX	(AEP,G-AEP)...CORD, POWER			
	⚠.1-551-884-00	(UK).........CORD, POWER			
903	⚠.1-526-565-00	(E)....AC PLUG ADAPTOR			
904	*1-618-717-11	PC BOARD, POWER IC (R)			
905	*1-618-716-11	PC BOARD, POWER IC (L)			
907	*1-618-714-11	PC BOARD, SPEAKER TERMINAL			
912	*A-4358-172-A	MOUNTED PCB, GRAPHIC EQUALIZER			
921	*A-4388-516-A	MOUNTED PCB, MAIN			
923	*1-618-715-11	PC BOARD, FUSE			
924	*1-618-712-11	PC BOARD, MICROPHONE			
925	*1-618-713-11	PC BOARD, HEADPHONE			
927	1-533-183-11	HOLDER FUSE			
C1	⚠ 1-161-744-00	CERAMIC	0.01MF		400V
C101	1-123-612-00	ELECT	2.2MF	20%	50V
C102	1-162-282-31	(AEP,E,UK)...CERAMIC	100PF	10%	50V
C102	1-162-286-11	(G-AEP)...CERAMIC	220PF	10%	50V
C103	1-162-219-31	CERAMIC	68PF	5%	50V
C104	1-123-306-00	ELECT	47MF	20%	10V
C105	1-130-480-00	MYLAR	0.0056MF	5%	50V
C106	1-130-473-00	MYLAR	0.0015MF	5%	50V
C107	1-123-609-00	ELECT	0.33MF	20%	50V
C108	1-123-306-00	ELECT	47MF	20%	10V
C109	1-162-282-31	(G-AEP)...CERAMIC	100PF	10%	50V
C151	1-123-612-00	ELECT	2.2MF	20%	50V
C152	1-162-282-31	(AEP,E,UK)...CERAMIC	100PF	10%	50V
C152	1-162-286-11	(G-AEP)....CERAMIC	220PF	10%	50V
C153	1-162-219-31	CERAMIC	68PF	5%	50V
C154	1-123-306-00	ELECT	47MF	20%	10V
C155	1-130-480-00	MYLAR	0.0056MF	5%	50V
C156	1-130-473-00	MYLAR	0.0015MF	5%	50V
C157	1-123-609-00	ELECT	0.33MF	20%	50V
C158	1-123-306-00	ELECT	47MF	20%	10V
C159	1-162-282-31	(G-AEP)...CERAMIC	100PF	10%	50V
C201	1-123-609-00	ELECT	0.33MF	20%	50V
C202	1-162-294-31	CERAMIC	0.001MF	10%	50V
C203	1-123-822-00	ELECT	47MF	20%	10V
C204	1-123-609-00	ELECT	0.33MF	20%	50V
C205	1-162-303-31	CERAMIC	0.0033MF	30%	16V
C206	1-123-822-00	ELECT	47MF	20%	10V
C207	1-162-306-31	CERAMIC	0.01MF	30%	16V
C301	1-162-286-11	(G-AEP)...CERAMIC	220PF	10%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C302	1-162-286-11	(G-AEP)...CERAMIC	220PF	10%	50V
C351	1-162-286-11	(G-AEP)...CERAMIC	220PF	10%	50V
C352	1-162-286-11	(G-AEP)...CERAMIC	220PF	10%	50V
C401	1-123-611-00	ELECT	1MF	20%	50V
C403	1-123-612-00	ELECT	2.2MF	20%	50V
C404	1-136-160-00	FILM	0.039MF	5%	50V
C405	1-123-902-00	ELECT	0.68MF	20%	50V
C406	1-136-157-00	FILM	0.022MF	5%	50V
C407	1-123-608-00.	ELECT	0.22MF	20%	50V
C408	1-136-153-00	FILM	0.01MF	5%	50V
C409	1-136-166-00	FILM	0.12MF	5%	50V
C410	1-130-478-00	MYLAR	0.0039MF	5%	50V
C411	1-136-163-00	FILM	0.068MF	5%	50V
C412	1-130-473-00	MYLAR	0.0015MF	5%	50V
C413	1-136-157-00	FILM	0.022MF	5%	50V
C414	1-162-293-31	CERAMIC	820PF	10%	50V
C415	1-136-153-00	FILM	0.01MF	5%	50V
C416	1-162-288-31	CERAMIC	330PF	10%	50V
C417	1-130-479-00	MYLAR	0.0047MF	5%	50V
C418	1-162-294-31	CERAMIC	0.001MF	10%	50V
C419	1-123-612-00	ELECT	2.2MF	20%	50V
C420	1-123-822-00	ELECT	47MF	20%	10V
C451	1-123-611-00	ELECT	1MF	20%	50V
C453	1-123-612-00	ELECT	2.2MF	20%	50V
C454	1-136-160-00	FILM	0.039MF	5%	50V
C455	1-123-902-00	ELECT	0.68MF	20%	50V
C456	1-136-157-00	FILM	0.022MF	5%	50V
C457	1-123-608-00	ELECT	0.22MF	20%	50V
C458	1-136-153-00	FILM	0.01MF	5%	50V
C459	1-136-166-00	FILM	0.12MF	5%	50V
C460	1-130-478-00	MYLAR	0.0039MF	5%	50V
C461	1-136-163-00	FILM	0.068MF	5%	50V
C462	1-130-473-00	MYLAR	0.0015MF	5%	50V
C463	1-136-157-00	FILM	0.022MF	5%	50V
C464	1-162-293-31	CERAMIC	820PF	10%	50V
C465	1-136-153-00	FILM	0.01MF	5%	50V
C466	1-162-288-31	CERAMIC	330PF	10%	50V
C467	1-130-479-00	MYLAR	0.0047MF	5%	50V
C468	1-162-294-31	CERAMIC	0.001MF	10%	50V
C469	1-123-612-00	ELECT	2.2MF	20%	50V
C470	1-123-822-00	ELECT	47MF	20%	10V
C601	1-123-380-00	ELECT	1MF	20%	50V
C602	1-161-315-00	CERAMIC	220PF	10%	50V
C603	1-124-443-00	ELECT	100MF	20%	10V
C604	1-161-323-00	CERAMIC	0.001MF	10%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C605	1-161-271-00	CERAMIC	100PF	5%	50V
C608	1-161-053-00	CERAMIC	0.0015MF	30%	50V
C609	1-124-122-11	ELECT	100MF	20%	50V
C610	1-123-380-00	ELECT	1MF	20%	50V
C613	1-161-315-00	CERAMIC	220PF	10%	50V
C614	1-136-163-00	MYLAR	0.068MF	10%	50V
C615	1-136-163-00	MYLAR	0.068MF	10%	50V
C616	1-162-301-31	CERAMIC	0.0015MF	30%	50V
C619	1-130-483-00	MYLAR	0.01MF	5%	50V
C620	1-161-494-00	CERAMIC	0.022MF	30%	25V
C621	1-161-325-00	(G-AEP)...CERAMIC	0.0015MF	30%	50V
C622	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C623	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C624	1-161-259-00	CERAMIC	10PF	5%	50V
C651	1-123-380-00	ELECT	1MF	20%	50V
C652	1-161-315-00	CERAMIC	220PF	10%	50V
C653	1-124-443-00	ELECT	100MF	20%	10V
C654	1-161-323-00	CERAMIC	0.001MF	10%	50V
C655	1-161-271-00	CERAMIC	100PF	5%	50V
C658	1-161-053-00	CERAMIC	0.0015MF	30%	50V
C659	1-124-122-11	ELECT	100MF	20%	50V
C660	1-123-380-00	ELECT	1MF	20%	50V
C663	1-161-315-00	CERAMIC	220PF	10%	50V
C664	1-136-163-00	MYLAR	0.068MF	10%	50V
C665	1-136-163-00	MYLAR	0.068MF	10%	50V
C669	1-130-483-00	MYLAR	0.01MF	5%	50V
C670	1-161-494-00	CERAMIC	0.022MF	30%	25V
C671	1-161-325-00	(G-AEP)...CERAMIC	0.0015MF	10%	50V
C672	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C673	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C674	1-161-259-00	CERAMIC	10PF	5%	50V
C801	1-123-308-00	ELECT	220MF	20%	6.3V
C802	1-123-308-00	ELECT	220MF	20%	6.3V
C803	1-123-356-00	ELECT	10MF	20%	50V
C804	1-123-307-00	ELECT	100MF	20%	6.3V
C901	⚠1-124-030-00	ELECT	6800MF	20%	42V
C902	⚠1-124-030-00	ELECT	6800MF	20%	42V
C903	1-123-333-00	ELECT	100MF	20%	16V
C904	1-123-333-00	ELECT	100MF	20%	16V
C905	⚠1-102-394-00	CERAMIC	0.01MF		250V
C906	1-123-306-00	ELECT	47MF	20%	10V
C907	1-123-306-00	ELECT	47MF	20%	10V
C908	1-123-359-00	ELECT	47MF	20%	50V
C909	1-123-356-00	ELECT	10MF	20%	50V
C910	1-123-359-00	ELECT	47MF	20%	50V
C911	1-161-328-11	(G-AEP)...CERAMIC	0.0047MF	30%	50V
C912	1-161-328-11	(G-AEP)...CERAMIC	0.0047MF	30%	50V
CN401	*1-563-251-11	SOCKET, CONNECTOR 12P			
CN451	*1-563-152-11	SOCKET, CONNECTOR 10P			
CNJ101	1-507-911-11	JACK, PIN 6P			
CNJ201	1-563-347-11	JACK, LARGE TYPE			
CNJ301	1-562-068-13	SOCKET, CONNECTOR 13P			
CNJ601	1-507-849-00	JACK, LARGE TYPE (HEADPHONES)			
CNJ901	1-562-068-13	SOCKET, CONNECTOR 13P			
D701	8-719-302-16	DIODE SEL1813A-C-TP2			
D702	8-719-302-16	DIODE SEL1813A-C-TP2			
D703	8-719-302-16	DIODE SEL1813A-C-TP2			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D704	8-719-302-16	DIODE SEL1813A-C-TP2
D705	8-719-302-16	DIODE SEL1813A-C-TP2
D801	8-719-107-57	DIODE 1S953-7
D802	8-719-107-57	DIODE 1S953-7
D803	8-719-107-94	DIODE 1SS202-1
D804	8-719-107-94	DIODE 1SS202-1
D805	8-719-200-77	DIODE 10E2-N
D851	8-719-107-57	DIODE 1S953-7
D901	7-719-910-13	DIODE HZ11A3L
D902	7-719-910-13	DIODE HZ11A3L
D903	⚠8-719-302-38	DIODE RBV-602-01
D904	⚠8-719-200-77	DIODE 10E2-N
D905	⚠8-719-200-77	DIODE 10E2-N
F1	⚠1-532-259-00	FUSE, TIME-LAG T1.6A
F2	⚠1-532-259-00	FUSE, TIME-LAG T1.6A
IC101	8-759-923-97	IC BA4561
IC401	8-759-923-97	IC BA4561
IC402	8-759-802-54	IC LA3605
IC452	8-759-802-54	IC LA3605
IC601	8-749-900-12	(AEP,G-AEP,UK)...IC STK4034MK-10
IC601	8-749-900-13	(E)...IC STK4028MK-10
IC651	8-749-900-12	(AEP,G-AEP,UK)...IC STK4034MK-10
IC651	8-749-900-13	(E)...IC STK4028MK-10
IC801	8-759-101-23	IC UPC1237H
J201	*1-562-249-00	SOCKET, CONNECTOR 4P
J202	*1-562-249-00	SOCKET, CONNECTOR 4P
J706	*1-562-250-00	SOCKET, CONNECTOR 5P
J707	*1-562-251-00	SOCKET, CONNECTOR 6P
J701	*1-562-327-00	SOCKET, CONNECTOR 3P
J704	*1-562-327-00	SOCKET, CONNECTOR 3P
J702	*1-562-328-00	SOCKET, CONNECTOR 7P
J703	*1-562-328-00	SOCKET, CONNECTOR 7P
J705	*1-562-328-00	SOCKET, CONNECTOR 7P
L601	*1-420-872-00	COIL, AIR CORE 1.9UH
L651	*1-420-872-00	COIL, AIR CORE 1.9UH
PS901	⚠1-532-686-00	LINK, IC
PS902	⚠1-532-686-00	LINK, IC
PS903	⚠1-532-686-00	LINK, IC
PT	⚠1-448-483-11	(E)..............TRANSFORMER, POWER
PT	⚠1-448-482-11	(AEP,G-AEP,UK)...TRANSFORMER, POWER
Q201	8-729-606-33	TRANSISTOR 2SC2603F
Q801	8-729-108-05	TRANSISTOR 2SC1841PA
Q802	8-729-900-36	TRANSISTOR DTA124ES-DP
Q851	8-729-108-05	TRANSISTOR 2SC1841PA
Q901	8-729-107-25	TRANSISTOR 2SD1585-L
Q902	8-729-111-67	TRANSISTOR 2SB1094-L
R101	1-249-441-11	CARBON 100K 5% 1/6W
R102	1-249-417-11	CARBON 1K 5% 1/6W
R103	1-249-441-11	CARBON 100K 5% 1/6W
R104	1-247-829-00	CARBON 820 5% 1/6W
R105	1-247-897-00	CARBON 560K 5% 1/6W
R106	1-249-437-11	CARBON 47K 5% 1/6W
R107	1-247-815-00	CARBON 220 5% 1/6W
R108	1-249-441-11	CARBON 100K 5% 1/6W
R109	1-247-704-11	CARBON 220 5% 1/4W
R110	1-247-829-81	(G-AEP)...CARBON 820 5% 1/6W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R151	1-249-441-11	CARBON 100K 5% 1/6W
R152	1-249-417-11	CARBON 1K 5% 1/6W
R153	1-249-441-11	CARBON 100K 5% 1/6W
R154	1-247-829-00	CARBON 820 5% 1/6W
R155	1-247-897-00	CARBON 560K 5% 1/6W
R156	1-249-437-11	CARBON 47K 5% 1/6W
R157	1-247-815-00	CARBON 220 5% 1/6W
R158	1-249-441-11	CARBON 100K 5% 1/6W
R159	1-247-704-11	CARBON 220 5% 1/4W
R160	1-247-829-81	(G-AEP)...CARBON 820 5% 1/6W
R201	1-249-441-11	CARBON 100K 5% 1/6W
R202	1-249-441-11	CARBON 100K 5% 1/6W
R203	1-249-417-11	CARBON 1K 5% 1/6W
R204	1-247-849-00	CARBON 5.6K 5% 1/6W
R205	1-247-859-00	CARBON 15K 5% 1/6W
R206	1-249-441-11	CARBON 100K 5% 1/6W
R207	1-249-421-11	CARBON 2.2K 5% 1/6W
R208	1-249-417-11	CARBON 1K 5% 1/6W
R301	1-249-417-11	CARBON 1K 5% 1/6W
R302	1-249-417-11	CARBON 1K 5% 1/6W
R303	1-247-823-00	CARBON 470 5% 1/6W
R351	1-249-417-11	CARBON 1K 5% 1/6W
R352	1-249-417-11	CARBON 1K 5% 1/6W
R353	1-247-823-00	CARBON 470 5% 1/6W
R401	1-247-887-00	CARBON 220K 5% 1/6W
R402	1-249-417-11	CARBON 1K 5% 1/6W
R403	1-247-887-00	CARBON 220K 5% 1/6W
R404	1-249-441-11	CARBON 100K 5% 1/6W
R405	1-249-425-11	CARBON 4.7K 5% 1/6W
R406	1-249-441-11	CARBON 100K 5% 1/6W
R407	1-247-109-00	CARBON 120 5% 1/4W
R408	1-247-708-11	CARBON 470 5% 1/4W
R409	1-247-823-00	CARBON 470 5% 1/6W
R451	1-247-887-00	CARBON 220K 5% 1/6W
R452	1-249-417-11	CARBON 1K 5% 1/6W
R453	1-247-887-00	CARBON 220K 5% 1/6W
R454	1-249-441-11	CARBON 100K 5% 1/6W
R455	1-249-425-11	CARBON 4.7K 5% 1/6W
R456	1-249-441-11	CARBON 100K 5% 1/6W
R457	1-247-109-00	CARBON 120 5% 1/4W
R459	1-247-823-00	CARBON 470 5% 1/6W
R601	1-247-713-11	CARBON 1K 5% 1/4W
R602	1-247-173-00	CARBON 56K 5% 1/4W
R603	1-247-125-00	CARBON 560 5% 1/4W
R604	1-247-173-00	CARBON 56K 5% 1/4W
R605	1-247-149-00	CARBON 5.6K 5% 1/4W
R606	1-247-713-11	CARBON 1K 5% 1/4W
R607	⚠1-247-700-11	CARBON 100 5% 1/4W F
R608	1-247-192-00	CARBON 10 5% 1/2W
R609	⚠1-247-192-00	CARBON 10 5% 1/2W F
R651	1-247-713-11	CARBON 1K 5% 1/4W
R652	1-247-173-00	CARBON 56K 5% 1/4W
R653	1-247-125-00	CARBON 560 5% 1/4W
R654	1-247-173-00	CARBON 56K 5% 1/4W
R655	1-247-149-00	CARBON 5.6K 5% 1/4W
R656	1-247-713-11	CARBON 1K 5% 1/4W
R657	⚠1-247-700-11	CARBON 100 5% 1/4W F
R658	1-247-192-00	CARBON 10 5% 1/2W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R659	⚠1-247-192-00	CARBON 10 5% 1/2W F
R801	1-247-173-00	CARBON 56K 5% 1/4W
R802	1-247-713-11	CARBON 1K 5% 1/4W
R803	1-249-460-11	CARBON 15K 5% 1/4W
R804	1-249-469-11	CARBON 100K 5% 1/4W
R805	⚠1-217-156-00	RES, METAL PLATE 0.22 5W F
R806	1-249-429-11	CARBON 10K 5% 1/6W
R807	1-249-441-11	CARBON 100K 5% 1/6W
R808	1-247-873-00	CARBON 56K 5% 1/6W
R809	1-247-153-00	CARBON 8.2K 5% 1/4W
R810	1-249-460-11	CARBON 15K 5% 1/4W
R811	⚠1-247-751-11	CARBON 820 5% 1/2W
R812	⚠1-247-751-11	CARBON 820 5% 1/2W
R851	1-247-173-00	CARBON 56K 5% 1/4W
R852	1-247-713-11	CARBON 1K 5% 1/4W
R853	1-249-460-11	CARBON 15K 5% 1/4W
R854	1-249-469-11	CARBON 100K 5% 1/4W
R855	⚠1-217-156-00	RES, METAL PLATE 0.22 5W F
R901	⚠1-217-387-00	FUSIBLE 10 5% 1/4W F
R902	⚠1-217-387-00	FUSIBLE 10 5% 1/4W F
R903	1-247-719-11	CARBON 3.3K 5% 1/4W
R904	1-247-719-11	CARBON 3.3K 5% 1/4W
R905	1-247-256-00	CARBON 4.7K 5% 1/2W
R906	1-247-256-00	CARBON 4.7K 5% 1/2W
R907	1-247-256-00	CARBON 4.7K 5% 1/2W
R908	1-247-252-00	CARBON 3.3K 5% 1/2W
R909	1-247-252-00	CARBON 3.3K 5% 1/2W
RV201	1-230-732-11	RES, VAR, SLIDE 100K/100K (MIC MIXING)
RV401	1-237-200-11	RES, VAR, SLIDE (BLOCK TYPE)
RV501	1-237-201-11	RES, VAR, SLIDE 100K/100K (BALENCE)
RV502	1-237-162-11	RES, VAR, SLIDE 100K/100K (VOLUME)
RY801	1-515-501-00	RELAY
S1	⚠.1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)
S301	1-570-614-11	SWITCH, PUSH (5 KEY)
S401	1-570-632-11	SWITCH, PUSH (1 KEY)
SV	⚠.1-526-576-51	(E).......... SELECTOR, POWER VOLTAGE
TM601	1-536-705-21	TERMINAL BOARD (SP)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

1997

ST-V50L/V70L

SERVICE MANUAL

AEP Model
UK Model

SONY
LIQUID CRYSTAL DIGITAL DISPLAY
QUARTZ LOCK DIGITAL SYNTHESIZER
STEREO
TUNING
BAND FM/MW/LW
MEMORY SCAN
INFRARED REMOTE CONTROL SYSTEM

ST-V50L and ST-V70L are FM stereo/FM-AM tuner units in LBT-V50W and LBT-V70WR, respectively.

SPECIFICATION

System	FM stereo, FM/AM superheterodyne tuner Quartz-locked PLL digital synthesizer system

FM tuner section

Tuning range	87.5 – 108 MHz
Antenna terminals	75 ohms unbalanced 300 ohms balanced
Intermediate frequency	10.7 MHz

	(at 40 kHz deviation)
Sensitivity	at 46 dB quieting 19.5 dBf, 5 µV (mono): AEP, UK model 2.5 µV (mono): G-AEP model 39.5 dBf, 50 µV (stereo): AEP, UK model 25 µV (steleo): G-AEP model
Usable sensitivity	11.5 dBf, 2 µV (IHF): AEP, UK model 1 µV (IHF): G-AEP model
Signal-to-noise ratio	74 dB (mono) 69 dB (stereo)
Hamonic distortion at 1 kHz	0.3% (mono) 0.5% (stereo)
Separation at 1 kHz	40 dB
Frequency response	40 Hz – 12.5 kHz ± 0.5 dB 30 Hz – 15 kHz $^{+0.5}_{-2.0}$ dB
Selectivity	at 300 kHz 50 dB: AEP, UK model 60 dB: G-AEP model
Image response ratio	50 dB: AEP, UK model 80 dB: G-AEP model
IF response ratio	90 dB: AEP, UK model 93 dB: G-AEP model

MW/LW tuner section

		MW	LW
Tuning range		522 – 1,611 kHz	144 – 288 kHz
Antenna		Layout-free AM antenna, External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	layout-free Antenna	400 µV/m (999 kHz)	700 µV/m (230 kHz): ST-V70L (216 kHz): ST-V50L
Signal-to-noise ratio		50 dB (50 mV/m): ST-V70L 54 dB (50 mV/m): ST-V50L	
Harmonic distortion		0.3% (50 mV/m, 400 Hz)	
Selectivity		35 dB (9 kHz)	

General

Dimensions	Approx. 355 x 77 x 275 mm (w/h/d) (14 x $3\frac{1}{8}$ x $10\frac{7}{8}$ inches) incl. projecting parts and controls
Weight	Approx. 2 kg (4 lb 7 oz) net

MICROFILM

FM STEREO/FM-AM TUNER

SONY®

AUD 1997

MODEL IDENTIFICATION

– Specification Labels –

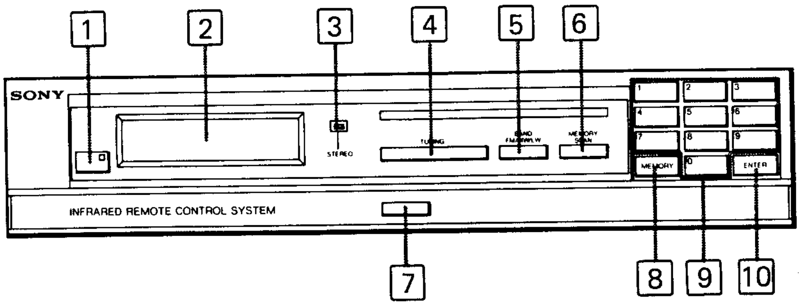
AEP, UK MODEL

SONY® MODEL NO. ST-V70L
FM STEREO/FM-AM TUNER
IF
SERIAL NO.
MADE IN JAPAN

G-AEP MODEL

SONY® MODEL NO. ST-V70L
FM STEREO/FM-AM TUNER
STEREO COMPONENT SYSTEM LBT-V70WR
IF
SERIAL NO
MADE IN JAPAN

FUNCTION OF CONTROLS ST-V70L



1 ▣ **REMOTE SENSOR**
Receives the infrared ray command transmitted from the supplied Remote Commander. (ST-V70L)

2 **Band/frequency display**
Displays the frequency received, preset station number, TUNED indication and MEMORY indication.

3 **STEREO indicator**
Lights when an FM stereo program of sufficient signal strength is tuned in.

4 **TUNING button**
Press the "+" side of the button to tune in a higher frequency, and the "–" side to tune in a lower frequency. To change the frequency continuously, keep the button pressed.

5 **BAND select button**
Press to select the desired band. The band indication appears in the display. With each press, the band changes as follows.
LW → FM → MW ┐

6 **MEMORY SCAN button**
To check the preset stations, press this button and press the TUNING button.

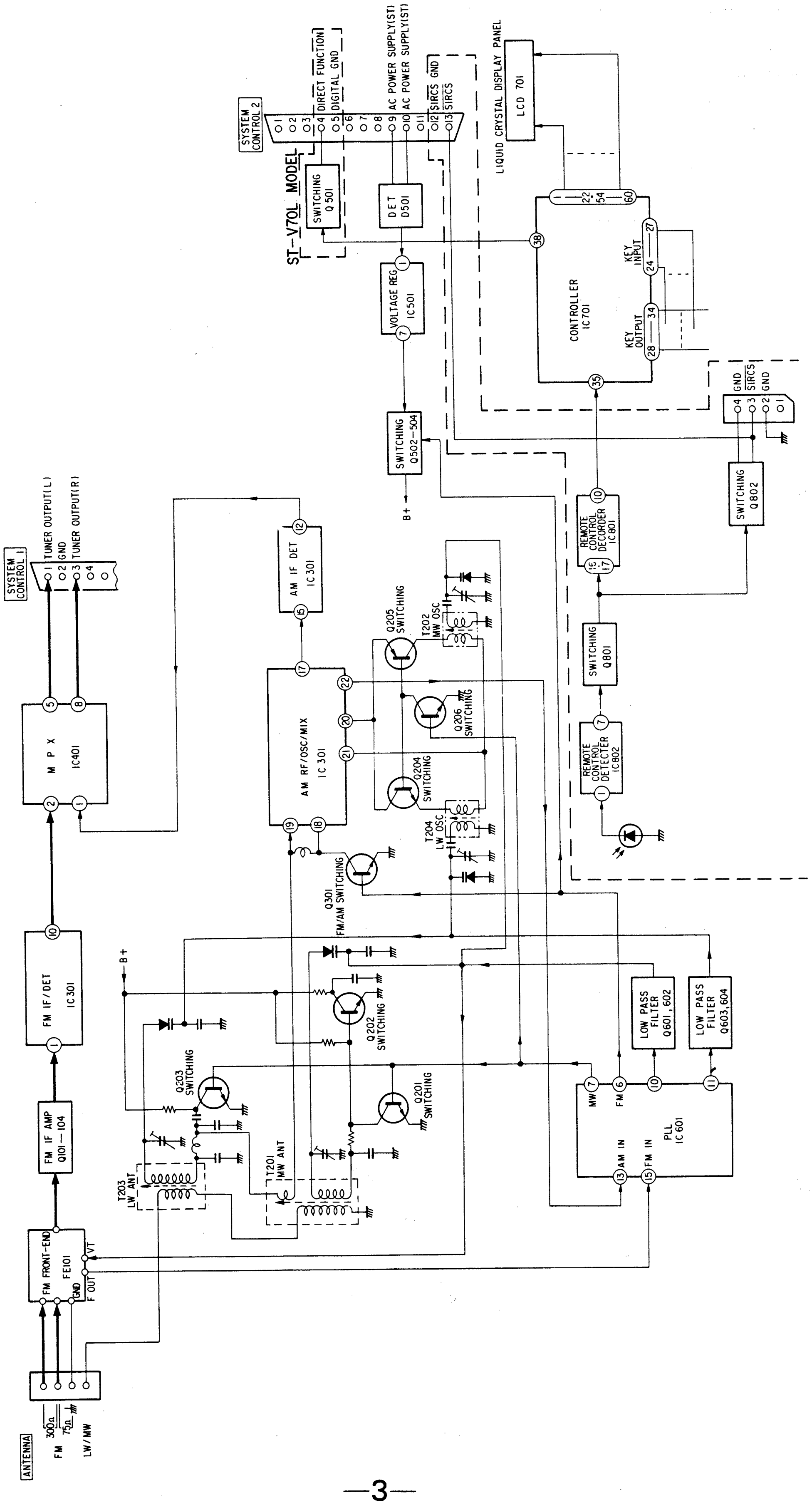
7 **FM TUNING MODE button**
Selects a tuning system MANUAL or AUTO.
The selected tuning system will be indicated in the band/frequency display.

8 **MEMORY button**
To memorize a tuned station to a PRESET button, press this button, press the PRESET button and press the ENTER button.

9 **PRESET buttons**
To call up a memorized station, press the appropriate button and press the ENTER button.

10 **ENTER button**
To memorized a tuned station to a PRESET button or to call up a memorized station, press this button.

SECTION 1
BLOCK DIAGRAM

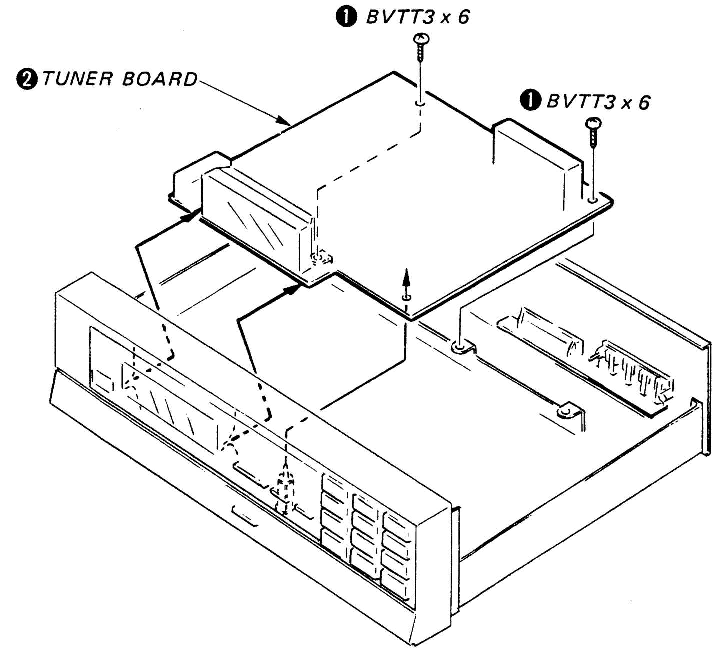

ANTENNA
FM 300Ω 75Ω
LW/MW
FM FRONT-END FE101
VT
GND
F OUT
FM IF AMP Q101 – 104
FM IF/DET IC301
M P X IC401
SYSTEM CONTROL 1
1 TUNER OUTPUT(L)
2 GND
3 TUNER OUTPUT(R)
4
AM IF DET IC301
AM RF/OSC/MIX IC301
Q301 FM/AM SWITCHING
T203 LW ANT
T201 MW ANT
Q203 SWITCHING
Q202 SWITCHING
Q201 SWITCHING
Q204 SWITCHING
Q205 SWITCHING
Q206 SWITCHING
T202 MW OSC
T204 LW OSC
B+
LOW PASS FILTER Q601, 602
LOW PASS FILTER Q603, 604
PLL IC601
MW
FM
AM IN
FM IN
SWITCHING Q502 – 504
VOLTAGE REG IC501
DET D501
SWITCHING Q501
ST-V70L MODEL
SYSTEM CONTROL 2
4 DIRECT FUNCTION
5 DIGITAL GND
9 AC POWER SUPPLY(ST)
10 AC POWER SUPPLY(ST)
12 SIRCS GND
13 SIRCS
LIQUID CRYSTAL DISPLAY PANEL
LCD 701
CONTROLLER IC701
KEY INPUT
KEY OUTPUT
REMOTE CONTROL DECORDER IC801
SWITCHING Q801
REMOTE CONTROL DETECTER IC802
SWITCHING Q802
4 GND
3 SIRCS
2 GND
1

SECTION 2
DISASSEMBLY

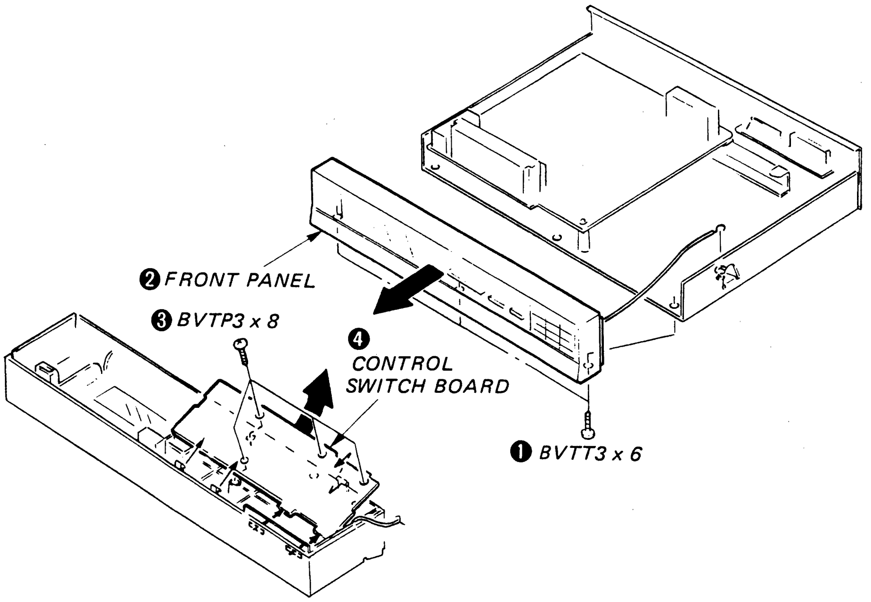
Note: Follow the disassembly procedure in the numerical order given.

CASE REMOVAL
Remove case by taking out four screws.

TUNER BOARD


① BVTT3 x 6
② TUNER BOARD
① BVTT3 x 6

FRONT PANEL, CONTROL SWITCH BOARD

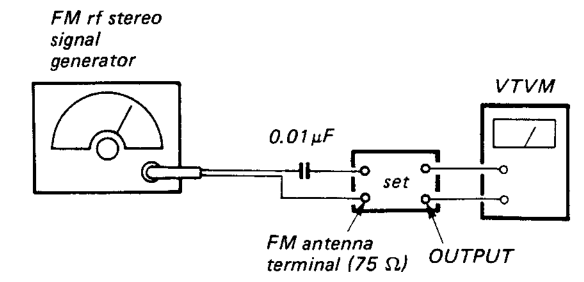

② FRONT PANEL
③ BVTP3 x 8
④ CONTROL SWITCH BOARD
① BVTT3 x 6

SECTION 3
ADJUSTMENTS

FM SECTION

FM stereo Separation Adjustment

Procedure:


FM rf stereo signal generator
VTVM
0.01 μF
set
FM antenna terminal (75 Ω)
OUTPUT

Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Mode: Stereo
Modulation:
Audio (1 kHz): 33.75 kHz deviation (40.6%)
Pilot (19 kHz): 7.5 kHz deviation (18.8%)
Sub-channel (38 kHz): 33.75 kHz deviation (40.6%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV401 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV401 for minimum reading.

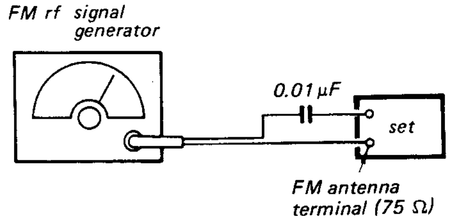
L-CH Stereo separation: Ⓐ − Ⓑ
R-CH Stereo separation: Ⓒ − Ⓓ

The separations of both channels should be equal.

FM Discriminator Alignment

Setting:
BAND select button...... FM

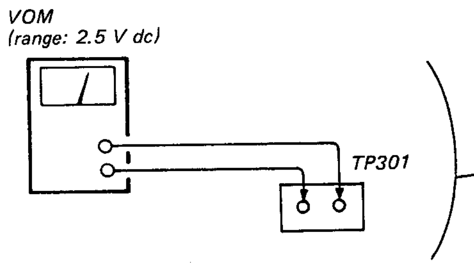
Procedure:

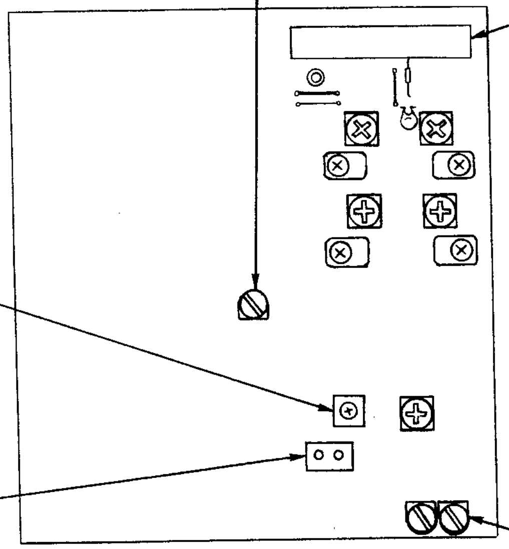

FM rf signal generator
0.01 μF
set
FM antenna terminal (75 Ω)

Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: 1 kHz, 40 kHz deviation (100%)

1. Tune the set to 98 MHz.
2. Adjust T301 for 0 V reading on the VOM....... NULL Adjustment

Note: When the ceramic filter is replaced, these adjustments should be made.

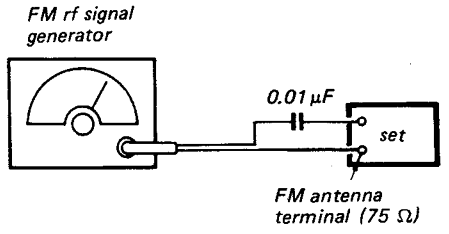

VOM
(range: 2.5 V dc)
TP301


RV401
T301
TP301
RV301

The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

FM TUNED Indication Lighting Level Adjustment

Setting:


FM rf signal generator
0.01 μF
set
FM antenna terminal (75 Ω)

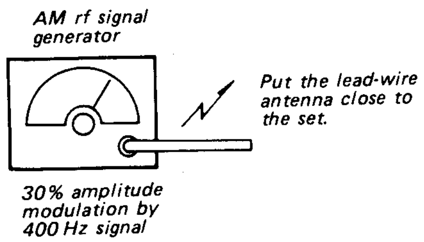
Carrier frequency: 98 MHz
Modulation: 1 kHz, 40 kHz deviation (100%)
Output level: 17.8 μV (25 dB)

1. Tune the set to 98 MHz.
2. Adjust RV301 so that the TUNED indicator lights up.

MW/LW SECTION

MW adjustment should be performed after L

Setting:
BAND select button: MW/LW


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal

set

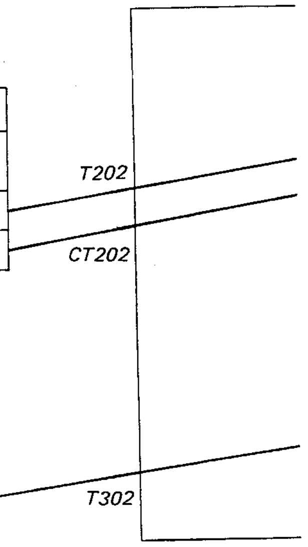
(

- Repeat the several tim tracking ad by the trim

MW TRACKI
Adjust for a on VTVM.
1,404 kHz
CT201

AM FREQUENCY COVERAGE ADJUSTMENT		
adjustment part	reading on VOM	frequency indication
T202	1.0 ± 0.2 V	522 kHz
CT202	9 ± 0.4 V	1,611 kHz

AM IF ALIGNMENT
Adjust for a maximum reading on VTVM.
450 kHz
T302


T202
CT202
T302

AM TUNED INDICATIC

BAND select switch: I
1. Output 50.1mV(generator.
2. Adjust RV302 so

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV401 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV401 for minimum reading.

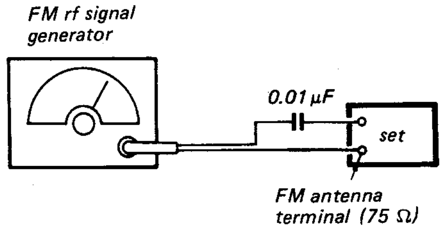
L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

FM TUNED Indication Lighting Level Adjustment

Setting:


FM rf signal generator
0.01μF
set
FM antenna terminal (75 Ω)

Carrier frequency: *98 MHz*
Modulation: *1 kHz, 40 kHz deviation (100%)*
Output level: *17.8 μV (25 dB)*

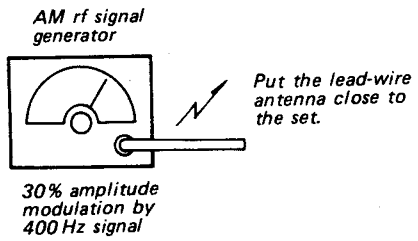
1. Tune the set to 98 MHz.
2. Adjust RV301 so that the TUNED indicator lights up.

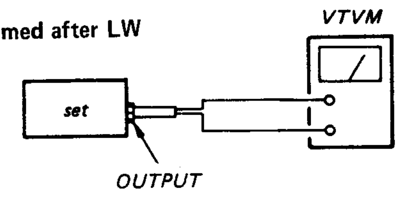
RV301

MW/LW SECTION **MW adjustment should be performed after LW**

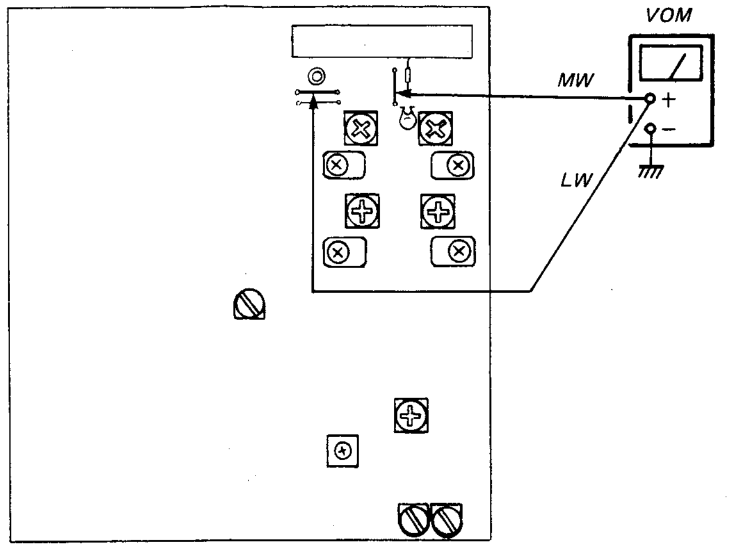
Setting:

BAND select button: MW/LW


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal


VTVM
set
OUTPUT

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



MW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

1,404 kHz	603 kHz
CT201	T201

LW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

162 kHz	270 kHz
T203	CT203

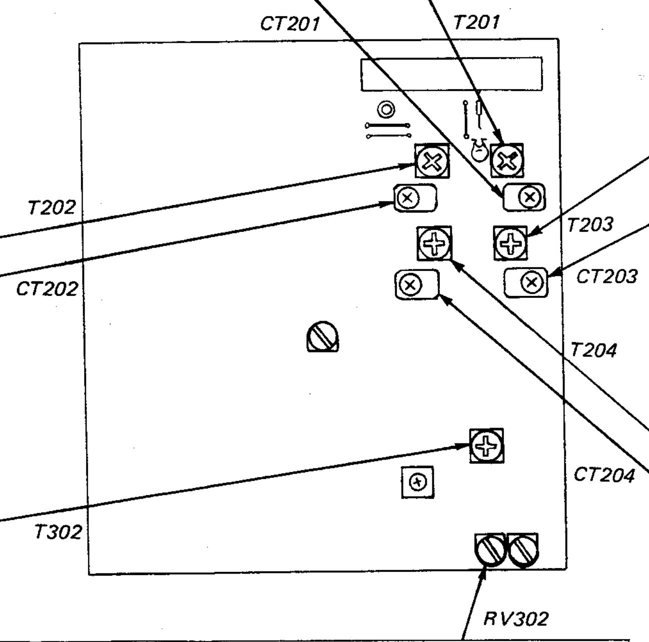
AM FREQUENCY COVERAGE ADJUSTMENT

adjustment part	reading on VOM	frequency indication
T202	1.0 ± 0.2 V	522 kHz
CT202	9 ± 0.4 V	1,611 kHz

AM IF ALIGNMENT

Adjust for a maximum reading on VTVM.

450 kHz
T302


CT201
T201
T202
CT202
T203
CT203
T204
CT204
T302
RV302

adjustment part	reading on VOM	frequency indication
T204	1 ± 0.2 V	144 kHz
CT204	9 ± 0.4 V	288 kHz

LW FREQUENCY COVERAGE ADJUSTMENT

AM TUNED INDICATION LIGHTING LEVEL ADJUSTMENT

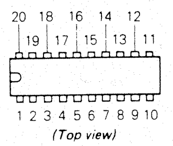
BAND select switch: LW

1. Output 50.1mV(94dB), 216kHz from AM rf signal generator.
2. Adjust RV302 so that the LED lights up.

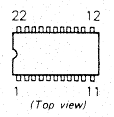
SECTION 4
DIAGRAMS

• Semiconductor Lead Layouts

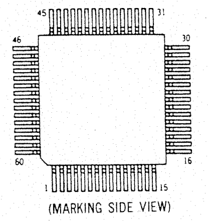
M50760-421P


20 18 16 14 12
19 17 15 13 11
1 2 3 4 5 6 7 8 9 10
(Top view)

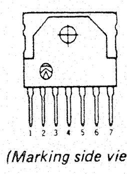
LA1265
LA3401


22
12
1
11
(Top view)

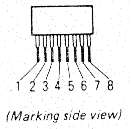
TC9302AF-018


45
31
46
30
60
16
1
15
(MARKING SIDE VIEW)

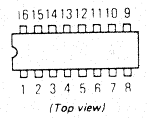
LA5666


1 2 3 4 5 6 7
(Marking side view)

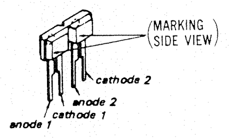
CX20106


1 2 3 4 5 6 7 8
(Marking side view)

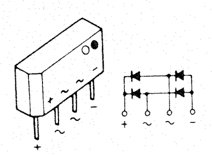
TC9172P


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

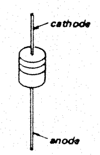
KV1236Z


(MARKING SIDE VIEW)
cathode 2
anode 2
cathode 1
anode 1

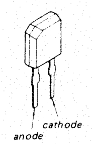
S1VB20



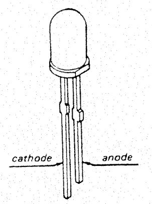
1SS202-1


cathode
anode

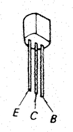
PH302B


anode
cathode

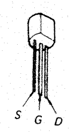
SEL1210S-C


cathode
anode

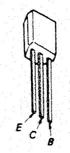
2SC3112-B
2SC380TM-Y



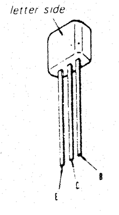
2SK30A-GR3



2SC2603-F
DTA144ES
DTC114ES

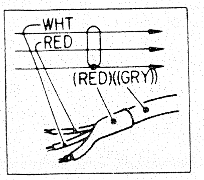


2SA1175


letter side
E
C
B

Note:

- Color code of sleeving over the end of the jacket.

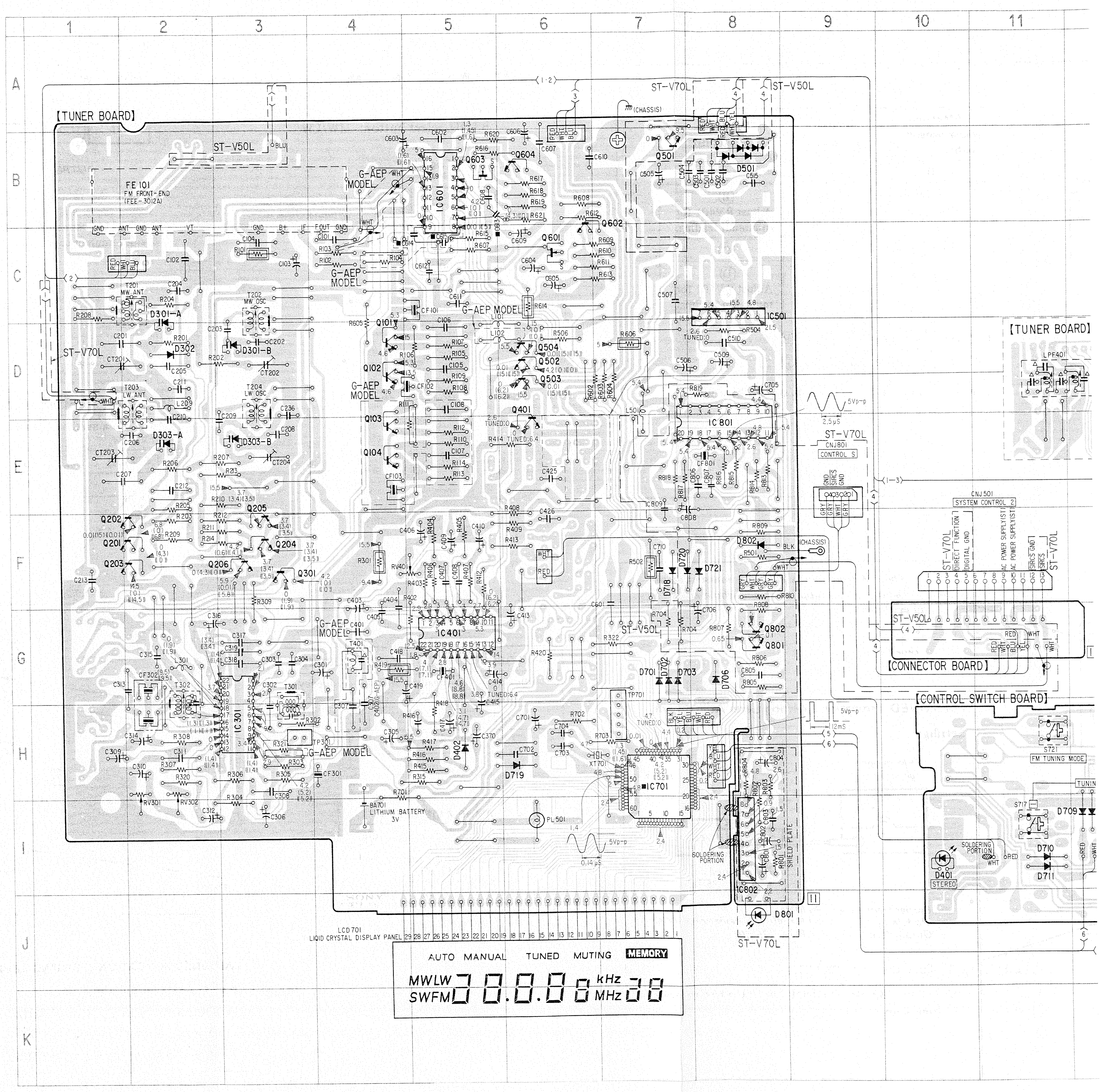

WHT
RED
(RED)((GRY))

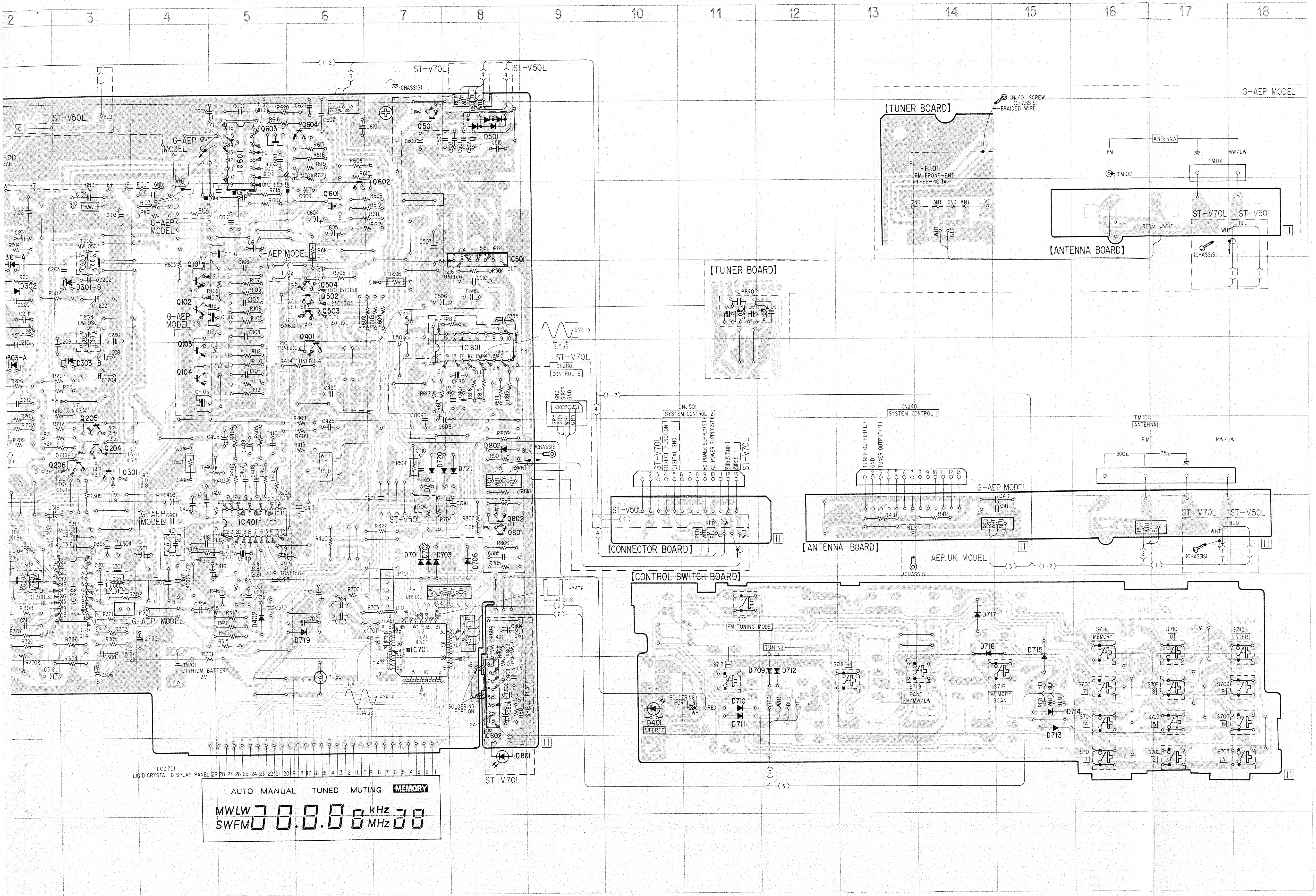
- ○—— : parts extracted from the component side.
- ■ : part mounted on the conductor side.
- [ ]⊢ : indicates side identified with part number.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D301-A	2-C	IC-301	3-H
D301-B	3-D	IC-401	5-H
D302	2-D	IC-501	8-C
D303-A	2-E	IC-601	5-B
D303-B	3-E	IC-701	7-H
D401	10-I	IC-801	8-E
D402	5-H	IC-802	8-I
D501	8-B	Q101	4-D
D701	7-G	Q102	4-D
D702	7-G	Q103	4-E
D703	7-G	Q104	4-E
D706	8-G	Q201	1-F
D709	12-I	Q202	1-F
D710	11-I	Q203	1-F
D711	11-I	Q204	3-F
D712	12-I	Q205	3-E
D713	15-J	Q206	3-F
D714	15-I	Q301	3-F
D715	15-H	Q401	6-D
D716	14-H	Q501	7-B
D717	14-H	Q502	6-D
D718	7-F	Q503	6-D
D719	6-H	Q504	6-D
D720	7-F	Q601	6-C
D721	8-F	Q602	7-C
D801	8-J	Q603	5-B
D802	8-F	Q604	6-B
		Q801	8-G
		Q802	8-G

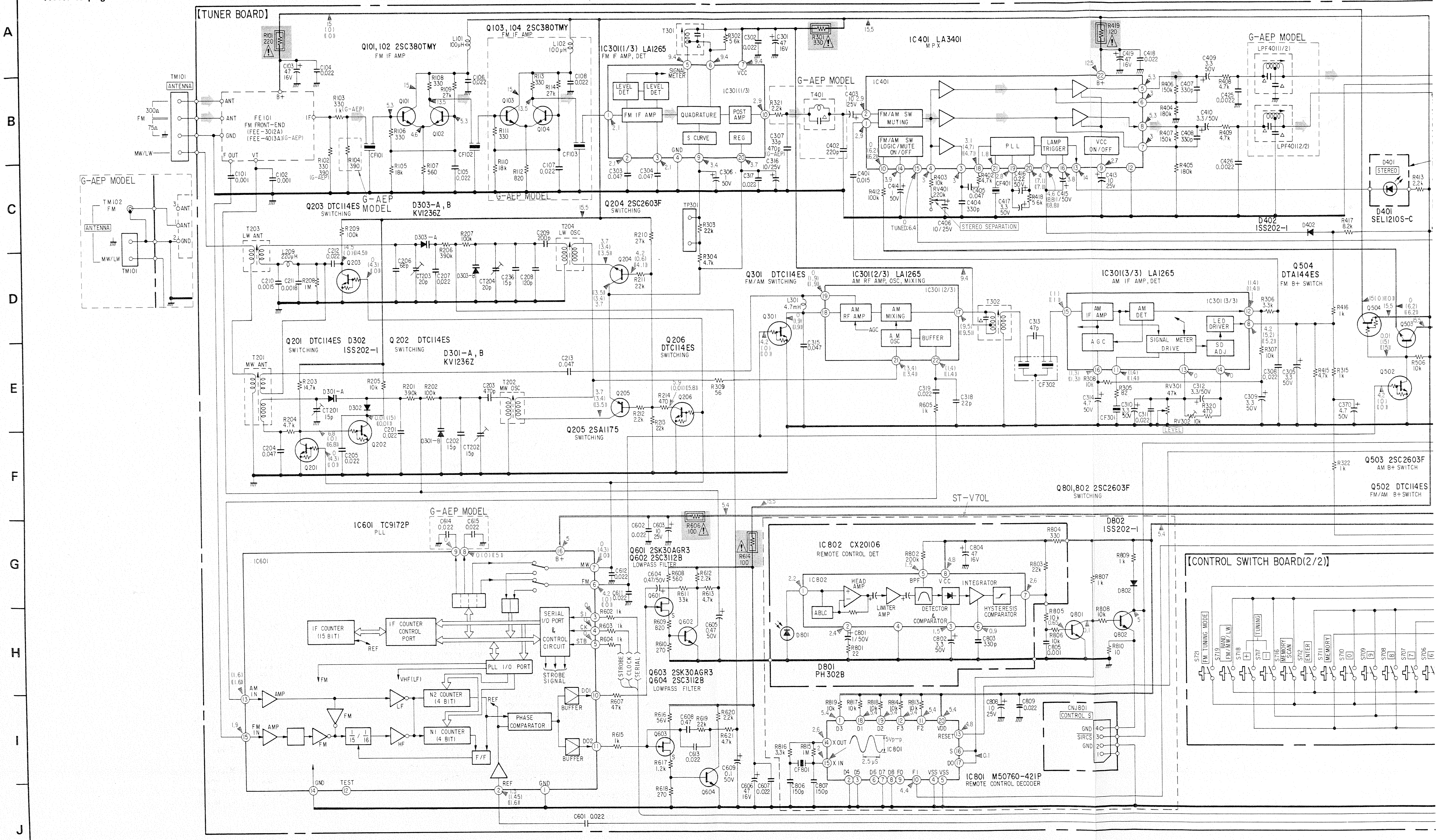
4-1. MOUNTING DIAGRAM

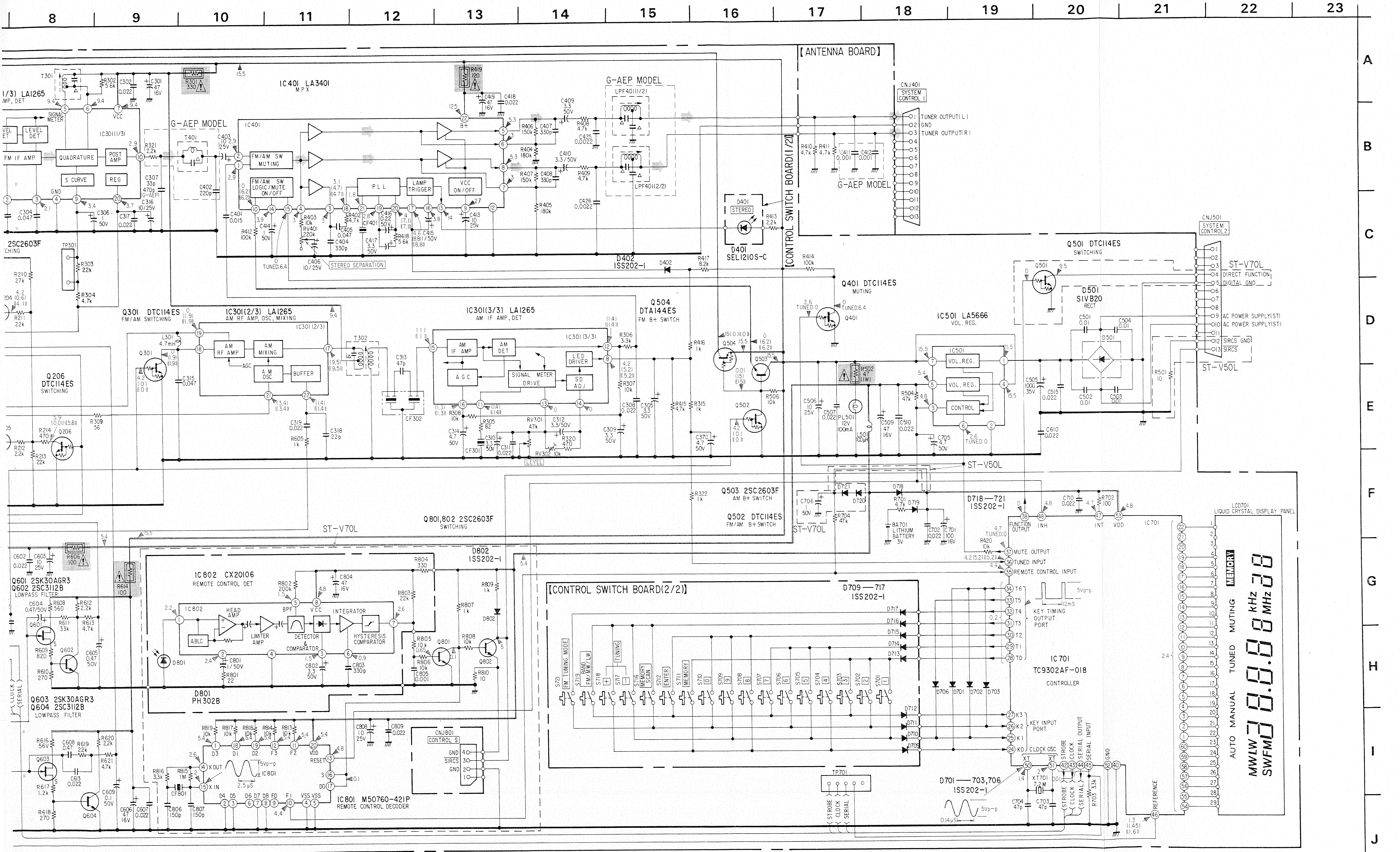

1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K
[TUNER BOARD]
ST-V50L
ST-V70L
FE 101 FM FRONT-END (FEE-3012A)
G-AEP MODEL
IC601
IC501
IC801
IC401
IC301
IC701
IC802
Q501
Q601
Q602
Q603
Q604
Q101
Q102
Q103
Q104
Q201
Q202
Q203
Q204
Q205
Q206
Q301
Q401
Q502
Q503
Q504
Q801
Q802
D501
D701
D702
D703
D706
D718
D719
D720
D721
D801
D802
D402
T201 MW ANT
T202 MW OSC
T203 LW ANT
T204 LW OSC
T301
T302
T401
(CHASSIS)
BLK
WHT
RED
GRY
5Vp-p
2.5μS
CN801 CONTROL
CNJ501 SYSTEM CONTROL
DIRECT FUNCTION
DIGITAL GND
[CONNECTOR BOARD]
[CONTROL SWITCH BOARD]
S721 FM TUNING MODE
S717
D709
D710
D711
D401 STEREO
SOLDERING PORTION
SHIELD PLATE
TP701
XT701
PL501
BA701 LITHIUM BATTERY 3V
0.14μS
LPF401
LCD701 LIQUID CRYSTAL DISPLAY PANEL
AUTO MANUAL TUNED MUTING MEMORY
MW LW SW FM kHz MHz
SONY


ST-V50L
ST-V70L
G-AEP MODEL
IC601
IC501
IC801
IC401
IC301
IC701
IC802
LCD701
LIQID CRYSTAL DISPLAY PANEL
AUTO MANUAL TUNED MUTING MEMORY
MWLW SWFM kHz MHz
BA701 LITHIUM BATTERY 3V
[TUNER BOARD]
FE101 FM FRONT-END (FEE-4013A)
CNJ401 SCREW (CHASSIS) BRAIDED WIRE
[ANTENNA BOARD]
ANTENNA
FM
MW/LW
TM101
TM102
[TUNER BOARD]
LPF401
[CONNECTOR BOARD]
CNJ501 SYSTEM CONTROL 2
CNJ401 SYSTEM CONTROL 1
CNJ801 CONTROL S
[CONTROL SWITCH BOARD]
AEP,UK MODEL
S721 FM TUNING MODE
TUNING
S719 BAND FM/MW/LW
S716 MEMORY SCAN
S711 MEMORY
S710 0
S712 ENTER
D401 STEREO
SOLDERING PORTION
SHIELD PLATE
D801
5Vp-p
2.5μS
12mS
0.14μS
(CHASSIS)

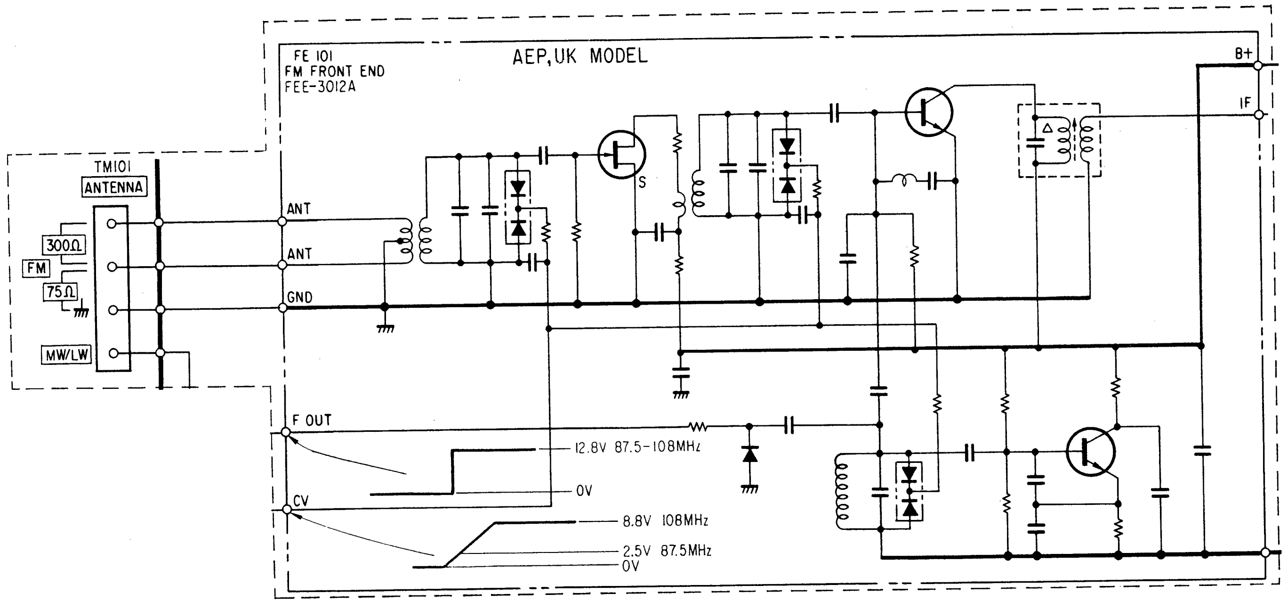
4-2. SCHEMATIC DIAGRAM

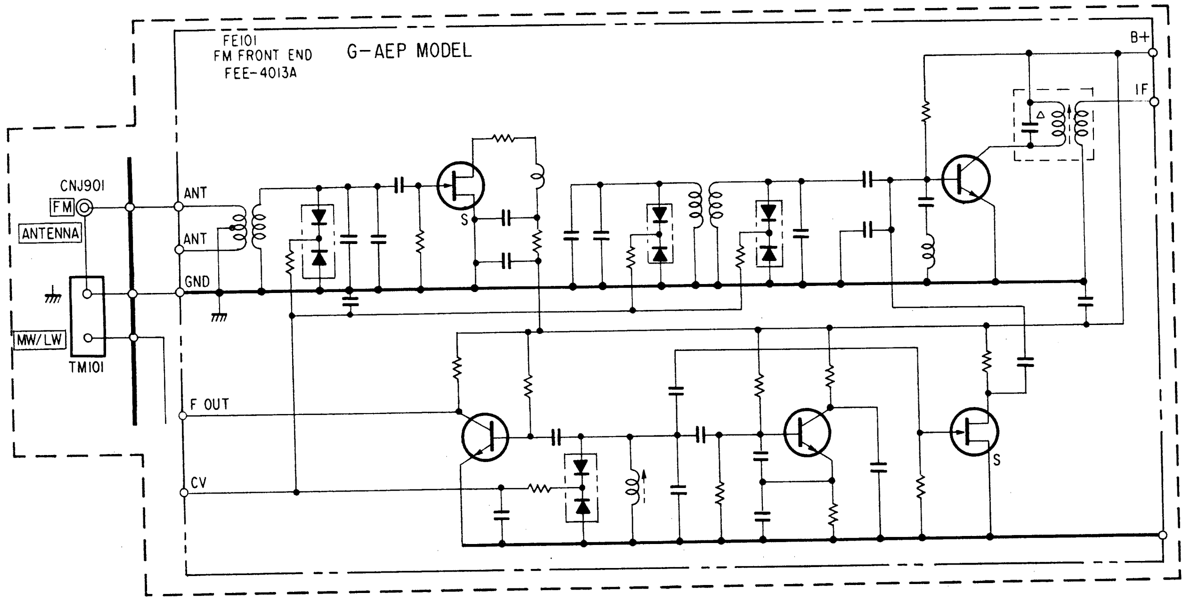
- Refer to page 14 for FM FRONT END schematic diagram and page 15 for note.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
[TUNER BOARD]
TM101 ANTENNA
FM 300Ω 75Ω
MW/LW
G-AEP MODEL
TM102 FM ANTENNA MW/LW
FE101 FM FRONT-END (FEE-3012A) (FEE-4013A)(G-AEP)
Q101, 102 2SC380TMY FM IF AMP
Q103, 104 2SC380TMY FM IF AMP
CF101 CF102 CF103
IC301(1/3) LA1265 FM IF AMP, DET
LEVEL DET
FM IF AMP
QUADRATURE
POST AMP
S CURVE
REG
SIGNAL METER
VCC
T301
IC401 LA3401 MPX
FM/AM SW MUTING
FM/AM SW LOGIC/MUTE ON/OFF
PLL
LAMP TRIGGER
VCC ON/OFF
LPF401(1/2)
LPF401(2/2)
D401 STEREO
D401 SEL1210S-C
D402 1SS202-1
STEREO SEPARATION
TUNED
Q203 DTC114ES SWITCHING
D303-A, B KV1236Z
Q204 2SC2603F SWITCHING
T203 LW ANT
T204 LW OSC
TP301
Q301 DTC114ES FM/AM SWITCHING
IC301(2/3) LA1265 AM RF AMP, OSC, MIXING
AM RF AMP
AM MIXING
AM OSC
BUFFER
AGC
T302
CF302
IC301(3/3) LA1265 AM IF AMP, DET
AM IF AMP
AM DET
AGC
SIGNAL METER DRIVE
LED DRIVER
SD ADJ
LEVEL
Q504 DTA144ES FM B+ SWITCH
Q201 DTC114ES SWITCHING
D302 1SS202-1
Q202 DTC114ES SWITCHING
D301-A, B KV1236Z
Q206 DTC114ES SWITCHING
T201 MW ANT
T202 MW OSC
Q205 2SA1175 SWITCHING
Q503 2SC2603F AM B+ SWITCH
Q502 DTC114ES FM/AM B+SWITCH
Q801, 802 2SC2603F SWITCHING
ST-V70L
IC601 TC9172P PLL
IF COUNTER (15 BIT)
IF COUNTER CONTROL PORT
SERIAL I/O PORT & CONTROL CIRCUIT
PLL I/O PORT
STROBE SIGNAL
STROBE CLOCK SERIAL
N2 COUNTER (4 BIT)
N1 COUNTER (4 BIT)
PHASE COMPARATOR
F/F
BUFFER
AM IN AMP
FM IN AMP
LF HF VHF(LF)
REF GND TEST
Q601 2SK30AGR3
Q602 2SC3112B LOWPASS FILTER
Q603 2SK30AGR3
Q604 2SC3112B LOWPASS FILTER
IC802 CX20106 REMOTE CONTROL DET
HEAD AMP
ABLC
LIMITER AMP
BPF
DETECTOR & COMPARATOR
INTEGRATOR
HYSTERESIS COMPARATOR
D801 PH302B
D802 1SS202-1
IC801 M50760-421P REMOTE CONTROL DECODER
CF801
CNJ801 CONTROL S
GND SIRCS GND
[CONTROL SWITCH BOARD(2/2)]
S721 FM TUNING MODE
S719 BAND FM/MW/LW
S718 +
S717 TUNING −
S716 MEMORY SCAN
S712 ENTER
S711 MEMORY
S710 0
S709 9
S708 8
S707 7
S706 6


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
A
B
C
D
E
F
G
H
I
J
IC401 LA3401
MPX
G-AEP MODEL
LPF401(1/2)
LPF401(2/2)
[ANTENNA BOARD]
CNJ401
SYSTEM CONTROL 1
TUNER OUTPUT(L)
GND
TUNER OUTPUT(R)
[CONTROL SWITCH BOARD(1/2)]
IC301(1/3) LA1265
FM IF AMP
QUADRATURE
POST AMP
S CURVE
REG
FM/AM SW MUTING
FM/AM SW LOGIC/MUTE ON/OFF
PLL
LAMP TRIGGER
VCC ON/OFF
STEREO SEPARATION
TUNED:6.4
D401 SEL1210S-C
STEREO
D402 1SS202-1
Q401 DTC114ES
MUTING
Q301 DTC114ES
FM/AM SWITCHING
IC301(2/3) LA1265
AM RF AMP, OSC, MIXING
AM RF AMP
AM MIXING
AM OSC
BUFFER
AGC
IC301(3/3) LA1265
AM IF AMP, DET
AM IF AMP
AM DET
LED DRIVER
SIGNAL METER DRIVE
SD ADJ
LEVEL
Q504 DTA144ES
FM B+ SWITCH
Q503 2SC2603F
AM B+ SWITCH
Q502 DTC114ES
FM/AM B+ SWITCH
Q206 DTC114ES
SWITCHING
2SC2603F
Q501 DTC114ES
SWITCHING
D501 S1VB20
RECT
IC501 LA5666
VOL. REG.
CONTROL
CNJ501
SYSTEM CONTROL 2
ST-V70L
DIRECT FUNCTION
DIGITAL GND
AC POWER SUPPLY(ST)
SIRCS GND
SIRCS
ST-V50L
Q801,802 2SC2603F
SWITCHING
IC802 CX20106
REMOTE CONTROL DET
HEAD AMP
ABLC
LIMITER AMP
BPF
DETECTOR & COMPARATOR
INTEGRATOR
HYSTERESIS COMPARATOR
D801 PH302B
D802 1SS202-1
IC801 M50760-421P
REMOTE CONTROL DECODER
CNJ801
CONTROL S
SIRCS
Q601 2SK30AGR3
Q602 2SC3112B
LOWPASS FILTER
Q603 2SK30AGR3
Q604 2SC3112B
LOWPASS FILTER
CLOCK
SERIAL
[CONTROL SWITCH BOARD(2/2)]
D709—717 1SS202-1
FM TUNING MODE
BAND FM/MW/LW
TUNING
MEMORY SCAN
ENTER
MEMORY
D718—721 1SS202-1
BA701 LITHIUM BATTERY 3V
FUNCTION OUTPUT
INH
INT
VDD
MUTE OUTPUT
TUNED INPUT
REMOTE CONTROL INPUT
KEY TIMING OUTPUT PORT
KEY INPUT PORT
IC701 TC9302AF-018
CONTROLLER
CLOCK OSC
STROBE
CLOCK
SERIAL OUTPUT
SERIAL INPUT
GND
REFERENCE
XT701 7.2M
D701—703,706 1SS202-1
TP701
STROBE
CLOCK
SERIAL
LCD701
LIQUID CRYSTAL DISPLAY PANEL
AUTO MANUAL TUNED MUTING MEMORY
MW LW
SW FM
kHz
MHz

4-3. FM FRONT END SCHEMATIC DIAGRAMS


FE 101
FM FRONT END
FEE-3012A
AEP,UK MODEL
B+
IF
TM101
ANTENNA
300Ω
FM
75Ω
MW/LW
ANT
ANT
GND
S
F OUT
12.8V 87.5-108MHz
0V
CV
8.8V 108MHz
2.5V 87.5MHz
0V


FE101
FM FRONT END
FEE-4013A
G-AEP MODEL
B+
IF
CNJ901
FM
ANTENNA
MW/LW
TM101
ANT
ANT
GND
S
F OUT
CV
S

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- ⇨ : signal path.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Δ : internal component.
- ▭ : nonflammable resistor.
- Switch

Ref. No.	Switch	Position
S701	1	OFF
S702	2	OFF
S703	3	OFF
S704	4	OFF
S705	5	OFF
S706	6	OFF
S707	7	OFF
S708	8	OFF
S709	9	OFF
S710	0	OFF
S711	MEMORY	OFF
S712	ENTER	OFF
S716	MEMORY SCAN	OFF
S717	TUNING –	OFF
S718	TUNING +	OFF
S719	BAND FM/MW/LW	OFF
S721	FM TUNING MODE	OFF

- ▬ : B+ bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  no mark : FM
  ( ) : MW
  《 》 : LW
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in detund mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

NOTE:

21–

2

1

No.

1

2
3
4
5
6
7

8

9
10
11
12

Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- ⇨ : signal path.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- △ : internal component.
- ▭ : nonflammable resistor.
- Switch

Ref. No.	Switch	Position
S701	1	OFF
S702	2	OFF
S703	3	OFF
S704	4	OFF
S705	5	OFF
S706	6	OFF
S707	7	OFF
S708	8	OFF
S709	9	OFF
S710	0	OFF
S711	MEMORY	OFF
S712	ENTER	OFF
S716	MEMORY SCAN	OFF
S717	TUNING –	OFF
S718	TUNING +	OFF
S719	BAND FM/MW/LW	OFF
S721	FM TUNING MODE	OFF

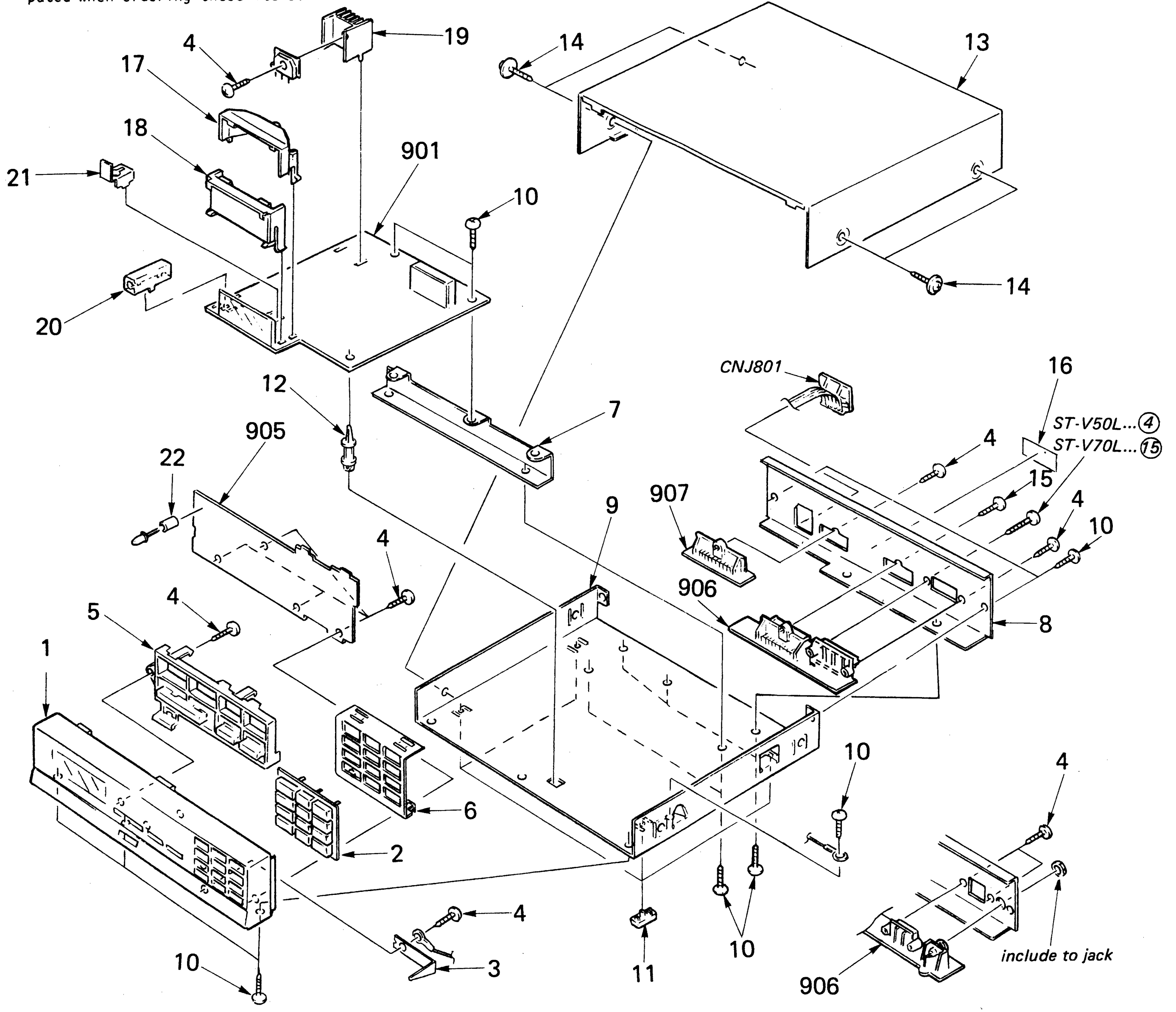
- ▬ : B+ bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  no mark: FM
  ( ) : MW
  (( )) : LW
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in detund mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

SECTION 5
EXPLODED VIEWS AND PARTS LIST

NOTE:
The mechanical parts with no reference number in the exploded views are not supplied.

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks
1	X-4914-012-1	(ST-V50L)...PANEL ASSY, FRONT	
	X-4914-017-1	(ST-V70L)...PANEL ASSY, FRONT	
2	X-4914-014-1	KNOB ASSY, PUSH	
3	*4-914-034-01	PLATE, GROUND	
4	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S	
5	4-914-010-01	KNOB BLOCK	
6	*4-914-009-01	RETAINER, KNOB	
7	*4-914-007-01	BRACKET	
8	4-914-001-01	(ST-V70L:AEP,UK)...PLATE, JACK	
	4-914-001-23	(ST-V70L:G-AEP)....PLATE, JACK	
	4-912-001-41	(ST-V50L:AEP,UK)...PLATE, JACK	
	4-912-001-53	(ST-V50L:G-AEP)....PLATE, JACK	
9	*4-912-118-01	CHASSIS	
10	7-685-871-01	SCREW +BVTT 3X6 (S)	
11	X-4907-603-1	FOOT ASSY	
12	*4-914-008-01	HOLDER, PCB	

No.	Part No.	Description	Remarks
13	4-912-115-01	CASE	
14	4-886-821-01	SCREW, M3 CASE	
15	3-703-473-00	SCREW, TERMINAL	
16	4-914-032-01	LABEL, MODEL NUMBER (FR)	
17	*4-904-515-01	HOUSE, LAMP	
18	*4-909-633-01	ILLUMINATOR	
19	*4-363-146-51	HEAT SINK, V.OUT	
20	*4-909-705-01	(ST-V70L)...PLATE, SHIELD	
21	*4-914-005-01	BLIND (2)	
22	4-886-543-21	TUBE, CUSHION	
901	A-4351-500-A	MOUNTED PCB, TUNER	
905	*1-618-065-11	PC BOARD, CONTROL SWITCH	
906	*1-618-352-11	PC BOARD, ANTENNA	
907	*1-618-353-11	PC BOARD, CONNECTOR	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	A-4351-500-A	MOUNTED PCB, TUNER			
902	*1-562-327-00	SOCKET, CONNECTOR 3P			
903	*1-562-327-00	SOCKET, CONNECTOR 3P			
905	*1-618-065-11	PC BOARD, CONTROL SWITCH			
906	*1-618-352-11	PC BOARD, ANTENNA			
907	*1-618-353-11	PC BOARD, CONNECTOR			
908	*1-562-249-00	SOCKET, CONNECTOR 4P			
BA701	1-528-120-00	BATTERY, LITHIUM (CR-2025)			
C101	1-162-294-31	CERAMIC	0.001MF	10%	50V
C102	1-162-294-31	CERAMIC	0.001MF	10%	50V
C103	1-123-332-00	ELECT	47MF	20%	16V
C104	1-161-494-00	CERAMIC	0.022MF	30%	25V
C105	1-161-494-00	CERAMIC	0.022MF	30%	25V
C106	1-161-494-00	CERAMIC	0.022MF	30%	25V
C107	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C108	1-161-494-00	(G-AEP)...CERAMIC	0.022MF	30%	25V
C201	1-161-494-00	CERAMIC	0.022MF	30%	25V
C202	1-102-880-00	CERAMIC	15PF	5%	50V
C203	1-104-069-00	POLYSTYRENE	470PF	5%	50V
C204	1-101-006-00	CERAMIC	0.047MF		50V
C205	1-161-494-00	CERAMIC	0.022MF	30%	25V
C206	1-101-888-00	CERAMIC	68PF	5%	50V
C207	1-161-494-00	CERAMIC	0.022MF	30%	25V
C208	1-102-703-21	CERAMIC	120PF	5%	50V
C209	1-104-060-00	POLYSTYRENE	200PF	5%	50V
C210	1-162-301-31	CERAMIC	0.0015MF	30%	16V
C211	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C212	1-161-494-00	CERAMIC	0.022MF	30%	25V
C213	1-101-006-00	CERAMIC	0.047MF		50V
C236	1-101-971-00	CERAMIC	15PF	5%	50V
C301	1-123-332-00	ELECT	47MF	20%	16V
C302	1-161-494-00	CERAMIC	0.022MF	30%	25V
C303	1-101-006-00	CERAMIC	0.047MF		50V
C304	1-101-006-00	CERAMIC	0.047MF		50V
C305	1-123-382-00	ELECT	3.3MF	20%	50V
C306	1-123-380-00	ELECT	1MF	20%	50V
C307	1-162-211-31	(AEP,UK)...CERAMIC	33PF	5%	50V
C307	1-162-290-31	(G-AEP)....CERAMIC	470PF	10%	50V
C308	1-161-494-00	CERAMIC	0.022MF	30%	25V
C309	1-123-382-00	ELECT	3.3MF	20%	50V
C310	1-123-382-00	ELECT	3.3MF	20%	50V
C311	1-161-494-00	CERAMIC	0.022MF	30%	25V
C312	1-123-382-00	ELECT	3.3MF	20%	50V
C313	1-162-215-31	CERAMIC	47PF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C314	1-123-369-00	ELECT	4.7MF	20%	50V
C315	1-101-006-00	CERAMIC	0.047MF		50V
C316	1-123-356-00	ELECT	10MF	20%	25V
C317	1-161-494-00	CERAMIC	0.022MF	30%	25V
C318	1-162-207-31	CERAMIC	22PF	5%	50V
C319	1-161-494-00	CERAMIC	0.022MF	30%	25V
C370	1-123-369-00	ELECT	4.7MF	20%	50V
C401	1-108-583-00	MYLAR	0.015MF	5%	50V
C402	1-162-286-31	(G-AEP)...CERAMIC	220PF	10%	50V
C403	1-123-356-00	ELECT	10MF	20%	25V
C404	1-162-288-31	CERAMIC	330PF	10%	50V
C405	1-108-595-00	MYLAR	0.047MF	5%	50V
C406	1-123-356-00	ELECT	10MF	20%	25V
C407	1-162-288-31	CERAMIC	330PF	10%	50V
C408	1-162-288-31	CERAMIC	330PF	10%	50V
C409	1-123-382-00	ELECT	3.3MF	20%	50V
C410	1-123-382-00	ELECT	3.3MF	20%	50V
C411	1-162-294-00	(G-AEP)...CERAMIC	0.001MF	10%	50V
C412	1-162-294-00	(G-AEP)...CERAMIC	0.001MF	10%	50V
C413	1-123-356-00	ELECT	10MF	20%	25V
C414	1-123-380-00	ELECT	1MF	20%	50V
C415	1-123-380-00	ELECT	1MF	20%	50V
C416	1-123-608-00	ELECT	0.22MF	20%	50V
C417	1-123-382-00	ELECT	3.3MF	20%	50V
C418	1-161-494-00	CERAMIC	0.022MF	30%	25V
C419	1-123-332-00	ELECT	47MF	20%	16V
C425	1-101-002-00	CERAMIC	0.0022MF		50V
C426	1-101-002-00	CERAMIC	0.0022MF		50V
C501	1-101-004-00	CERAMIC	0.01MF		50V
C502	1-101-004-00	CERAMIC	0.01MF		50V
C503	1-101-004-00	CERAMIC	0.01MF		50V
C504	1-101-004-00	CERAMIC	0.01MF		50V
C505	1-124-901-00	ELECT	1000MF	20%	35V
C506	1-123-356-00	ELECT	10MF	20%	25V
C507	1-161-494-00	CERAMIC	0.022MF	30%	25V
C509	1-123-332-00	ELECT	47MF	20%	16V
C510	1-161-494-00	CERAMIC	0.022MF	30%	25V
C515	1-101-005-00	CERAMIC	0.022MF		50V
C602	1-161-494-00	CERAMIC	0.022MF	30%	25V
C603	1-123-356-00	ELECT	10MF	20%	25V
C604	1-123-379-00	ELECT	0.47MF	20%	50V
C605	1-123-379-00	ELECT	0.47MF	20%	50V
C606	1-123-332-00	ELECT	47MF	20%	16V
C607	1-161-494-00	CERAMIC	0.022MF	30%	25V
C608	1-130-776-00	FILM	0.47MF	5%	63V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C609	1-123-607-00	ELECT 0.1MF 20% 50V
C610	1-101-005-00	CERAMIC 0.022MF 50V
C611	1-101-005-00	CERAMIC 0.022MF 50V
C612	1-101-005-00	CERAMIC 0.022MF 50V
C613	1-101-005-00	CERAMIC 0.022MF 50V
C614	1-101-005-00	(G-AEP)...CERAMIC 0.022MF 50V
C615	1-101-005-00	(G-AEP)...CERAMIC 0.022MF 50V
C701	1-123-333-00	ELECT 100MF 20% 16V
C702	1-161-494-00	CERAMIC 0.022MF 30% 25V
C703	1-102-852-00	CERAMIC 47PF 5% 50V
C704	1-102-852-00	CERAMIC 47PF 5% 50V
C705	1-123-369-00	ELECT 4.7MF 20% 50V
C706	1-123-380-00	(ST-V70L)...ELECT 1MF 20% 50V
C710	1-161-494-00	CERAMIC 0.022MF 30% 25V
C801	1-123-611-00	(ST-V70L)...ELECT 1MF 20% 50V
C802	1-123-613-00	(ST-V70L)...ELECT 3.3MF 20% 50V
C803	1-162-288-31	(ST-V70L)...CERAMIC 330PF 10% 50V
C804	1-123-821-00	(ST-V70L)...ELECT 47MF 20% 16V
C805	1-162-294-31	(ST-V70L)...CERAMIC 0.001MF 10% 50V
C806	1-102-531-00	(ST-V70L)...CERAMIC 150PF 5% 50V
C807	1-102-531-00	(ST-V70L)...CERAMIC 150PF 5% 50V
C808	1-123-356-00	(ST-V70L)...ELECT 10MF 20% 25V
C809	1-101-005-00	(ST-V70L)...CERAMIC 0.022MF 50V
CF101	1-567-389-11	FILTER, CERAMIC
CF102	1-567-389-11	FILTER, CERAMIC
CF103	1-567-389-11	(G-AEP)...FILTER, CERAMIC
CF301	1-527-981-00	FILTER, CERAMIC
CF302	1-527-937-00	FILTER, CERAMIC
CF401	1-567-250-11	OSCILLATOR, CERAMIC
CF801	1-527-532-00	(ST-V70L)...OSCILLATOR, CERAMIC
CNJ401	1-562-068-13	SOCKET, CONNECTOR 13P
CNJ501	1-562-068-13	SOCKET, CONNECTOR 13P
CNJ701*	1-564-507-11	PLUG, CONNECTOR 4P
CNJ702*	1-564-508-11	PLUG, CONNECTOR 5P
CNJ801	1-558-456-11	(ST-V70L)...CORD (WITH CONNECTOR)
CT201	1-141-180-00	CAP, TRIMMER 15P
CT202	1-141-180-00	CAP, TRIMMER 15P
CT203	1-141-171-00	CAP, TRIMMER 20P
CT204	1-141-171-00	CAP, TRIMMER 20P
D301	8-719-902-79	DIODE KV1236Z
D302	8-719-107-94	DIODE 1SS202-1
D303	8-719-902-79	DIODE KV1236Z
D401	8-719-302-46	DIODE SEL1210S-C
D402	8-719-107-94	DIODE 1SS202-1
D501	8-719-511-20	DIODE S1VB20
D701	8-719-107-94	DIODE 1SS202-1
D702	8-719-107-94	DIODE 1SS202-1
D703	8-719-107-94	DIODE 1SS202-1
D704	8-719-107-94	DIODE 1SS202-1
D705	8-719-107-94	DIODE 1SS202-1
D706	8-719-107-94	DIODE 1SS202-1
D709	8-719-107-94	DIODE 1SS202-1
D710	8-719-107-94	DIODE 1SS202-1
D711	8-719-107-94	DIODE 1SS202-1
D712	8-719-107-94	DIODE 1SS202-1
D713	8-719-107-94	DIODE 1SS202-1
D714	8-719-107-94	DIODE 1SS202-1

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D715	8-719-107-94	DIODE 1SS202-1
D716	8-719-107-94	DIODE 1SS202-1
D717	8-719-107-94	DIODE 1SS202-1
D718	8-719-107-94	DIODE 1SS202-1
D719	8-719-107-94	DIODE 1SS202-1
D720	8-719-107-94	(ST-V70L)...DIODE 1SS202-1
D721	8-719-107-94	(ST-V70L)...DIODE 1SS202-1
D801	8-719-110-32	(ST-V70L)...DIODE PH302B
D802	8-719-107-94	(ST-V70L)...DIODE 1SS202-1
FE101	1-463-609-11	(AEP,UK)...FRONT END, FM (FEE-3012A)
FE101	1-463-611-11	(G-AEP)....FRONT END, FM (FEE-4013A)
IC301	8-759-801-81	IC LA1265
IC401	8-759-801-80	IC LA3401
IC501	8-759-802-61	IC LA5666
IC601	8-759-202-63	IC TC9172P
IC701	8-759-207-45	IC TC9302AF-018
IC801	8-759-603-43	(ST-V70L)...IC 50760-421P
IC802	8-759-010-60	(ST-V70L)...IC CX20106
L101	1-410-564-21	MICRO INDUCTOR 100UH
L102	1-410-564-21	(G-AEP)...MICRO INDUCTOR 100UH
L209	1-410-568-21	MICRO INDUCTOR 220UH
L301	1-408-920-00	MICRO INDUCTOR 4.7MMH
L501	1-410-564-21	MICRO INDUCTOR 100UH
LCD701	1-807-409-11	DISPLAY PANEL, LIQUID CRYSTAL
LPF401	1-235-221-00	(G-AEP)...FILTER, LOW PASS
PL501	1-518-511-81	LAMP, PILOT
Q101	8-729-201-96	TRANSISTOR 2SC380TM-Y
Q102	8-729-201-96	TRANSISTOR 2SC380TM-Y
Q103	8-729-201-96	(ST-V70L)...TRANSISTOR 2SC380TM-Y
Q104	8-729-201-96	(ST-V70L)...TRANSISTOR 2SC380TM-Y
Q201	8-729-900-80	TRANSISTOR DTC114ES
Q202	8-729-900-80	TRANSISTOR DTC114ES
Q203	8-729-900-80	TRANSISTOR DTC114ES
Q204	8-729-606-33	TRANSISTOR 2SC2603F
Q205	8-729-117-54	TRANSISTOR 2SA1175
Q206	8-729-900-80	TRANSISTOR DTC114ES
Q301	8-729-900-80	TRANSISTOR DTC114ES
Q401	8-729-900-80	TRANSISTOR DTC114ES
Q501	8-729-900-80	(ST-V70L)...TRANSISTOR DTC114ES
Q502	8-729-900-80	TRANSISTOR DTC114ES
Q503	8-729-606-33	TRANSISTOR 2SC2603F
Q504	8-729-900-65	TRANSISTOR DTA144ES
Q601	8-729-203-05	TRANSISTOR 2SK30A-GR3
Q602	8-729-201-84	TRANSISTOR 2SC3112-B
Q603	8-729-203-05	TRANSISTOR 2SK30A-GR3
Q604	8-729-201-84	TRANSISTOR 2SC3112-B
Q801	8-729-606-33	TRANSISTOR 2SC2603F
Q802	8-729-606-33	TRANSISTOR 2SC2603F
R101 ⚠	1-247-115-00	CARBON 220 5% 1/4W F
R102	1-247-819-00	(AEP,UK)...CARBON 330 5% 1/6W
R102	1-247-821-00	(G-AEP)....CARBON 390 5% 1/6W
R103	1-247-819-00	(AEP,UK)...CARBON 330 5% 1/6W
R103	1-247-831-00	(G-AEP)....CARBON 1K 5% 1/6W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R104	1-247-821-00	(G-AEP)....CARBON 390 5% 1/6W
R105	1-249-432-11	CARBON 18K 5% 1/6W
R106	1-247-819-00	CARBON 330 5% 1/6W
R107	1-249-414-11	CARBON 560 5% 1/6W
R108	1-247-819-00	CARBON 330 5% 1/6W
R109	1-249-434-11	CARBON 27K 5% 1/6W
R110	1-249-432-11	(G-AEP)....CARBON 18K 5% 1/6W
R111	1-247-819-00	(G-AEP)....CARBON 330 5% 1/6W
R112	1-247-829-00	(G-AEP)....CARBON 820 5% 1/6W
R113	1-247-819-00	(G-AEP)....CARBON 330 5% 1/6W
R114	1-249-434-11	(G-AEP)....CARBON 27K 5% 1/6W
R201	1-247-893-00	CARBON 390K 5% 1/6W
R202	1-247-879-00	CARBON 100K 5% 1/6W
R203	1-249-425-11	CARBON 4.7K 5% 1/6W
R204	1-249-425-11	CARBON 4.7K 5% 1/6W
R205	1-249-429-11	CARBON 10K 5% 1/6W
R206	1-247-893-00	CARBON 390K 5% 1/6W
R207	1-247-879-00	CARBON 100K 5% 1/6W
R208	1-247-903-00	CARBON 1M 5% 1/6W
R209	1-247-879-00	CARBON 100K 5% 1/6W
R210	1-249-434-11	CARBON 27K 5% 1/6W
R211	1-249-433-11	CARBON 22K 5% 1/6W
R212	1-249-421-11	CARBON 2.2K 5% 1/6W
R213	1-249-433-11	CARBON 22K 5% 1/6W
R214	1-247-823-00	CARBON 470 5% 1/6W
R301 ⚠	1-247-119-00	CARBON 330 5% 1/4W F
R302	1-247-849-00	CARBON 5.6K 5% 1/6W
R303	1-249-433-11	CARBON 22K 5% 1/6W
R304	1-247-847-00	CARBON 4.7K 5% 1/6W
R305	1-247-805-00	CARBON 82 5% 1/6W
R306	1-247-843-00	CARBON 3.3K 5% 1/6W
R307	1-249-429-11	CARBON 10K 5% 1/6W
R308	1-249-429-11	CARBON 10K 5% 1/6W
R309	1-247-801-00	CARBON 56 5% 1/6W
R315	1-247-831-00	CARBON 1K 5% 1/6W
R320	1-247-823-00	CARBON 470 5% 1/6W
R321	1-249-421-11	(G-AEP)...CARBON 2.2K 5% 1/6W
R322	1-247-831-00	CARBON 1K 5% 1/6W
R402	1-249-425-11	CARBON 4.7K 5% 1/6W
R403	1-249-429-11	CARBON 10K 5% 1/6W
R404	1-247-885-00	CARBON 180K 5% 1/6W
R405	1-247-885-00	CARBON 180K 5% 1/6W
R406	1-247-883-00	CARBON 150K 5% 1/6W
R407	1-247-883-00	CARBON 150K 5% 1/6W
R408	1-249-425-11	CARBON 4.7K 5% 1/6W
R409	1-249-425-11	CARBON 4.7K 5% 1/6W
R410	1-249-425-11	CARBON 4.7K 5% 1/6W
R411	1-249-425-11	CARBON 4.7K 5% 1/6W
R412	1-247-879-00	CARBON 100K 5% 1/6W
R413	1-247-717-11	CARBON 2.2K 5% 1/4W
R414	1-247-879-00	CARBON 100K 5% 1/6W
R415	1-249-425-11	CARBON 4.7K 5% 1/6W
R416	1-247-831-00	CARBON 1K 5% 1/6W
R417	1-247-853-00	CARBON 8.2K 5% 1/6W
R418	1-247-849-00	CARBON 5.6K 5% 1/6W
R419 ⚠	1-247-109-00	CARBON 120 5% 1/4W F
R420	1-249-429-11	CARBON 10K 5% 1/6W
R501	1-247-783-00	(ST-V70L)...CARBON 10 5% 1/6W
R502 ⚠	1-213-127-00	METAL OXIDE 47 5% 1W F
R504	1-249-437-11	CARBON 47K 5% 1/6W
R506	1-249-429-11	CARBON 10K 5% 1/6W
R602	1-247-831-00	CARBON 1K 5% 1/6W
R603	1-247-831-00	CARBON 1K 5% 1/6W
R604	1-247-831-00	CARBON 1K 5% 1/6W
R605	1-247-831-00	CARBON 1K 5% 1/6W
R606 ⚠	1-247-107-00	CARBON 100 5% 1/4W F
R607	1-249-437-11	CARBON 47K 5% 1/6W
R608	1-249-414-11	CARBON 560 5% 1/6W
R609	1-247-829-00	CARBON 820 5% 1/6W
R610	1-247-817-00	CARBON 270 5% 1/6W
R611	1-247-867-00	CARBON 33K 5% 1/6W
R612	1-249-421-11	CARBON 2.2K 5% 1/6W
R613	1-249-425-11	CARBON 4.7K 5% 1/6W
R614 ⚠	1-247-107-00	CARBON 100 5% 1/4W F
R615	1-247-831-00	CARBON 1K 5% 1/6W
R616	1-249-414-11	CARBON 560 5% 1/6W
R617	1-247-833-00	CARBON 1.2K 5% 1/6W
R618	1-247-817-00	CARBON 270 5% 1/6W
R619	1-249-433-11	CARBON 22K 5% 1/6W
R620	1-249-421-11	CARBON 2.2K 5% 1/6W
R621	1-249-425-11	CARBON 4.7K 5% 1/6W
R701	1-249-425-11	CARBON 4.7K 5% 1/6W
R702	1-247-807-00	CARBON 100 5% 1/6W
R703	1-247-843-00	CARBON 3.3K 5% 1/6W
R704	1-249-437-11	CARBON 47K 5% 1/6W
R801	1-247-791-00	(ST-V70L)...CARBON 22 5% 1/6W
R802	1-247-886-00	(ST-V70L)...CARBON 200K 5% 1/6W
R803	1-249-433-11	(ST-V70L)...CARBON 22K 5% 1/6W
R804	1-247-819-00	(ST-V70L)...CARBON 330 5% 1/6W
R805	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R806	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R807	1-247-831-00	(ST-V70L)...CARBON 1K 5% 1/6W
R808	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R809	1-247-831-00	(ST-V70L)...CARBON 1K 5% 1/6W
R810	1-247-783-00	(ST-V70L)...CARBON 10 5% 1/6W
R813	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R814	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R815	1-247-903-00	(ST-V70L)...CARBON 1M 5% 1/6W
R816	1-247-843-00	(ST-V70L)...CARBON 3.3K 5% 1/6W
R817	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R818	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
R819	1-249-429-11	(ST-V70L)...CARBON 10K 5% 1/6W
RV301	1-228-996-00	RES, ADJ, CARBON 47K
RV302	1-228-994-00	RES, ADJ, CARBON 10K
RV401	1-228-998-00	RES, ADJ, CARBON 220K
S701	1-554-303-21	SWITCH, KEY BOARD (1)
S702	1-554-303-21	SWITCH, KEY BOARD (2)
S703	1-554-303-21	SWITCH, KEY BOARD (3)
S704	1-554-303-21	SWITCH, KEY BOARD (4)
S705	1-554-303-21	SWITCH, KEY BOARD (5)
S706	1-554-303-21	SWITCH, KEY BOARD (6)
S707	1-554-303-21	SWITCH, KEY BOARD (7)
S708	1-554-303-21	SWITCH, KEY BOARD (8)
S709	1-554-303-21	SWITCH, KEY BOARD (9)
S710	1-554-303-21	SWITCH, KEY BOARD (0)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S711	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S712	1-554-303-21	SWITCH, KEY BOARD (ENTER)
S716	1-554-303-21	SWITCH, KEY BOARD (MEMORY SCAN)
S717	1-554-303-21	SWITCH, KEY BOARD (-)
S718	1-554-303-21	SWITCH, KEY BOARD (+)
S719	1-554-303-21	SWITCH, KEY BOARD (BAND)
S721	1-554-303-21	SWITCH, KEY BOARD (FM TUNING MODE)
T201	1-402-080-11	COIL, ANT (MW)
T202	1-406-089-11	COIL, OSC (MW)
T203	1-402-071-11	COIL, ANT (LW)
T204	1-406-207-11	COIL, OSC (LW)
T301	1-404-659-11	COIL, DISCRIMINATOR
T302	1-404-535-11	COIL (WITH IFT)
T401	1-235-126-00	(G-AEP)...ENCAPSULATED COMPONENT
TM101	1-536-707-00	(G-AEP)....TERMINAL BOARD, PUSH 2P
TM101	1-536-708-00	(AEP,UK)...TERMINAL BOARD, PUSH 4P
TM102	1-563-199-11	(G-AEP)...CONNECTOR, PAL
TP301	*1-560-060-00	PIN, CONNECTOR 2P
TP701	*1-560-063-00	PIN, CONNECTOR 5P
XT701	1-567-125-00	VIBRATOR, CRYSTAL

Sony Corporation

English
86D0440-1
Printed in Japan
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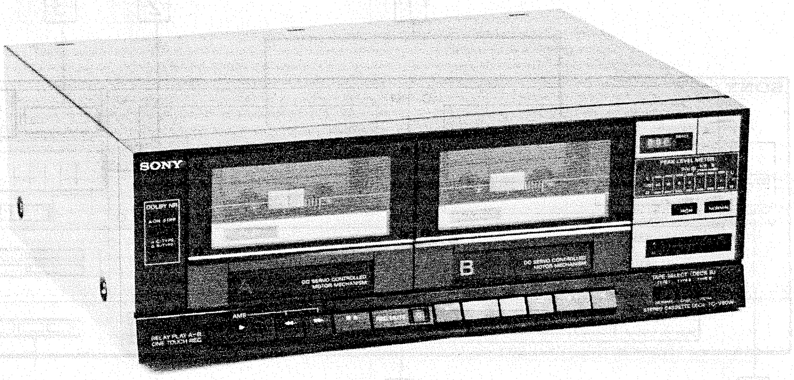
TC-V50W

SERVICE MANUAL

AEP Model
UK Model
E Model



TC-V50W are STEREO CASSETTE DECK in LBT-V50W respectively.

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF (DIN) With TYPE IV cassette (Sony METAL-ES) 30 – 15,000 Hz (±3 dB) With TYPE II cassette (Sony UCX-S) 30 – 14,000 Hz (±3 dB) With TYPE I cassette (Sony HF-S) 30 – 13,000 Hz (±3 dB)
Wow and flutter	0.12% WRMS (NAB) 0.18% WPeak (IEC)
Dimensions	Approx. 355 × 120 × 280 mm (w/h/d) (14 × 4 3/4 × 11 1/8 inches) incl. projecting parts and controls
Weight	Approx. 3.5 kg (7 lb 12 oz) net

Tape Transport Mechanism Type	TCM-50FMSF (DECK A) TCM-52FMF (DECK B)

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

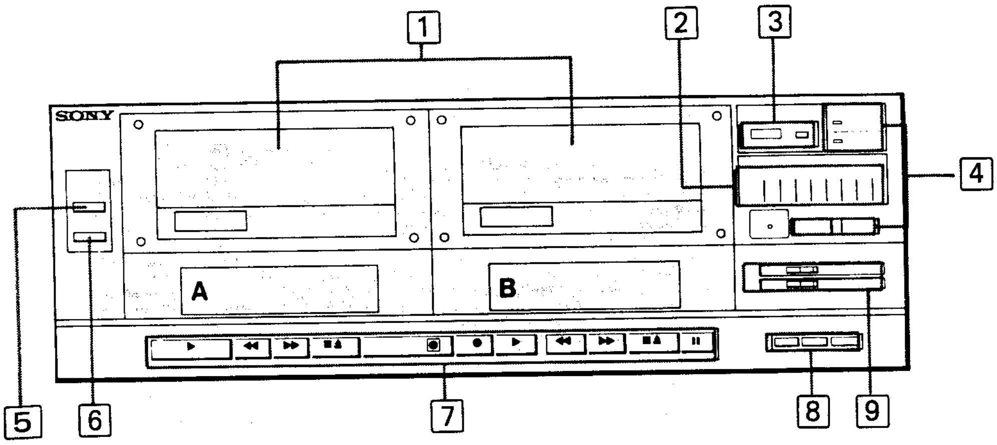
SEREO CASSETTE DECK

SONY®

~~2025~~

TC 199

FUNCTION OF CONTROL



1 **Cassette holder**

2 **PEAK LEVEL METERs**
These meters show the peak input level of each channel during recording and recorded levels during playback. The left-most LED of each meter lights when the power is turned on.

3 **TAPE COUNTER and reset button (deck B)**
The tape counter provides a numerical reference point. To reset to zero, press the reset button.

4 **Dubbing speed buttons and indicators**
HIGH SPEED: Press for high speed dubbing.
NORMAL SPEED: Press for normal speed dubbing.

5 **DOLBY NR* button**
To record with the Dolby NR (Noise Reduction) process, depress this button (⊥ ON). To record without the Dolby NR process, press to release (⊓ OFF).
When playing back, set this button to the same position used in recording.

* "Dolby" and the double-D symbol are trade marks of the Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

6 **DOLBY NR B/C button**
When the Dolby NR process is used, select the type by this button. For the C-type, press this button.

7 **Tape operation buttons**
- ■ ⏏ **(eject) button**
- ◀◀ **(fast-reverse) button**
- ■ **(stop) button**
- ▶ **(forward) button**
- ▶▶ **(fast forward) button**
- ● **REC (record) button (deck B)**

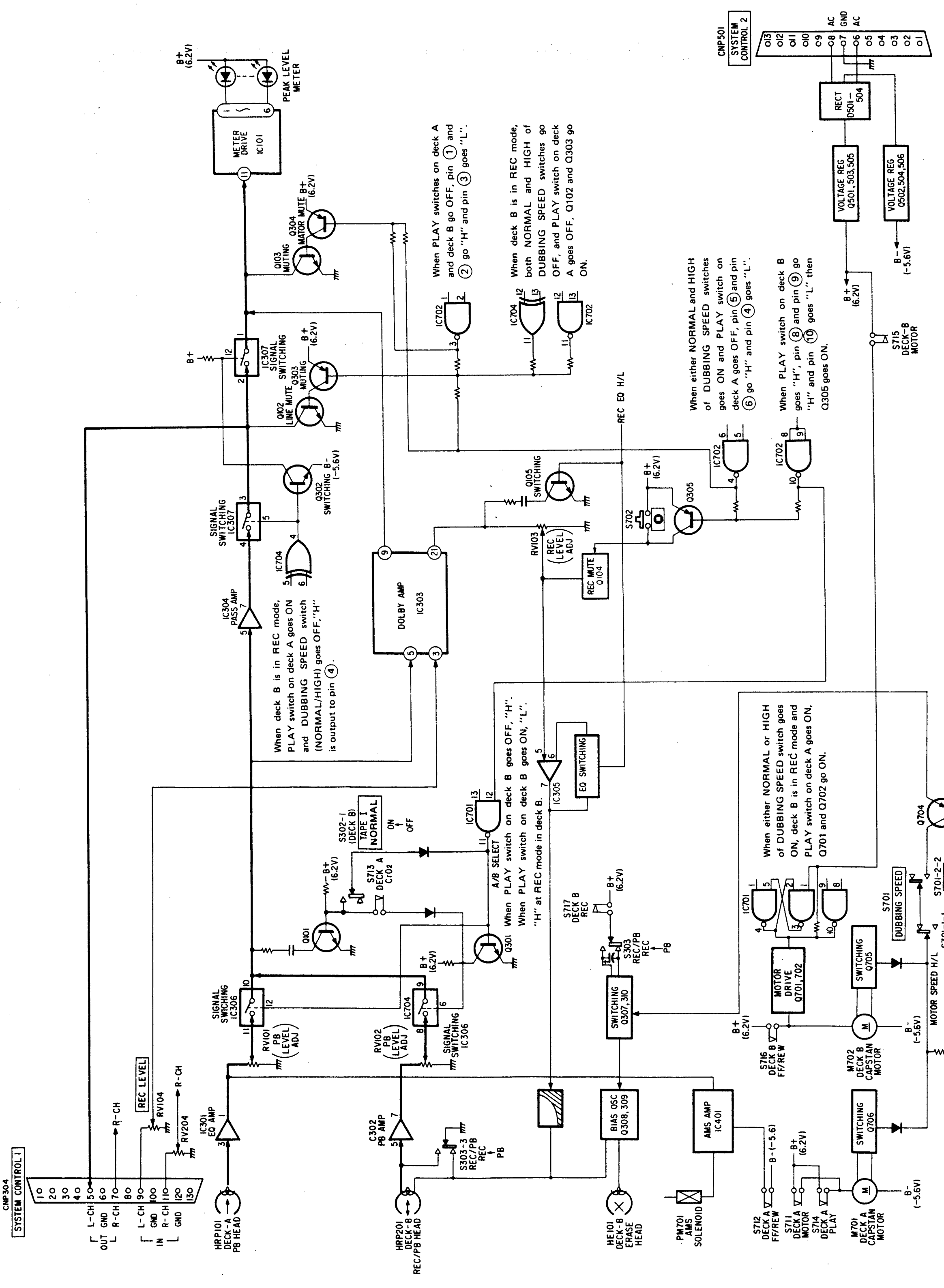
To start recording, keeping this button pressed, press the ▶ button.
- ○ **(record muting) button (deck B)**
- ❚❚ **PAUSE button (deck B)**

Press to stop the tape momentarily during recording or playback. To disengage pause mode, press it again.

8 **TAPE SELECT button**
Set to the appropriate position according to the type of cassette tape.
NORMAL: For normal tapes.
CrO2: For CrO2 tapes.
METAL: For metal tapes.

9 **REC LEVEL (recording level) controls**
Adjust the recording level by observing the PEAK LEVEL METERs.

SECTION 1
BLOCK DIAGRAM



When PLAY switches on deck A and deck B go OFF, pin ① and ② go "H" and pin ③ goes "L".

When deck B is in REC mode, both NORMAL and HIGH of DUBBING SPEED switches go OFF, and PLAY switch on deck A goes OFF, Q102 and Q303 go ON.

When either NORMAL and HIGH of DUBBING SPEED switches goes ON and PLAY switch on deck A goes OFF, pin ⑤ and pin ⑥ go "H" and pin ④ goes "L".

When PLAY switch on deck B goes "H", pin ⑧ and pin ⑨ go "H" and pin ⑩ goes "L" then Q305 goes ON.

When deck B is in REC mode, PLAY switch on deck A goes ON and DUBBING SPEED switch (NORMAL/HIGH) goes OFF, "H" is output to pin ④.

When PLAY switch on deck B goes OFF, "H".
When PLAY switch on deck B goes ON, "L".
"H" at REC mode in deck B.

When either NORMAL or HIGH of DUBBING SPEED switch goes ON, deck B is in REC mode and PLAY switch on deck A goes ON, Q701 and Q702 go ON.

"L" at PLAY mode in deck A and Q704 goes ON.

CNP304
SYSTEM CONTROL 1
OUT L-CH
GND
R-CH
IN L-CH
GND
R-CH
GND
REC LEVEL
RV104
RV204
R-CH
HRP101 DECK-A PB HEAD
IC301 EQ AMP
RV101 PB LEVEL ADJ
SIGNAL SWICHING IC306
IC304 PASS AMP
SIGNAL SWITCHING IC307
IC704
Q302 SWITCHING B- (-5.6V)
Q102 LINE MUTE
Q303 MUTING
IC307 SIGNAL SWITCHING
B+
Q103 MUTING
Q304 MATOR MUTE
B+ (6.2V)
METER DRIVE IC101
PEAK LEVEL METER
Q101
Q301
S713 DECK A CrO2
S302-1 (DECK B) TAPE I NORMAL
ON OFF
IC701
A/B SELECT
DOLBY AMP IC303
RV103 REC LEVEL ADJ
REC MUTE Q104
Q105 SWITCHING
S702
Q305
REC EQ H/L
IC305
EQ SWITCHING
IC702
IC704
HRP201 DECK-B REC/PB HEAD
C302 PB AMP
RV102 PB LEVEL ADJ
S303-3 REC/PB REC PB
HE101 DECK-B ERASE HEAD
BIAS OSC Q308,309
SWITCHING Q307,310
S303 REC/PB REC PB
S717 DECK B REC
AMS AMP IC401
PM701 AMS SOLENOID
S712 DECK A FF/REW
S711 DECK A MOTOR
S714 DECK A PLAY
B-(-5.6)
S716 DECK B FF/REW
MOTOR DRIVE Q701,702
SWITCHING Q705
SWITCHING Q706
M701 DECK A CAPSTAN MOTOR
M702 DECK B CAPSTAN MOTOR
MOTOR SPEED H/L
S701 DUBBING SPEED
S701-1-1 NORMAL
S701-2-2 HIGH
Q704
CNP501 SYSTEM CONTROL 2
AC GND AC
RECT D501-504
VOLTAGE REG Q501,503,505
VOLTAGE REG Q502,504,506
B+ (6.2V)
B- (-5.6V)
S715 DECK-B MOTOR

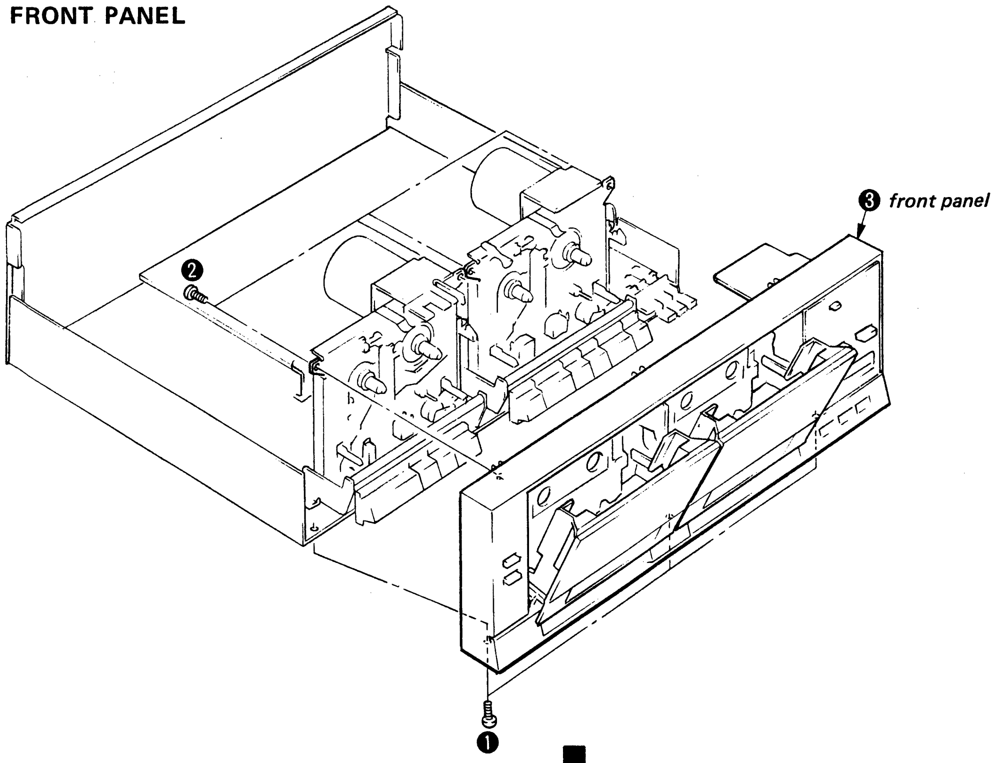
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

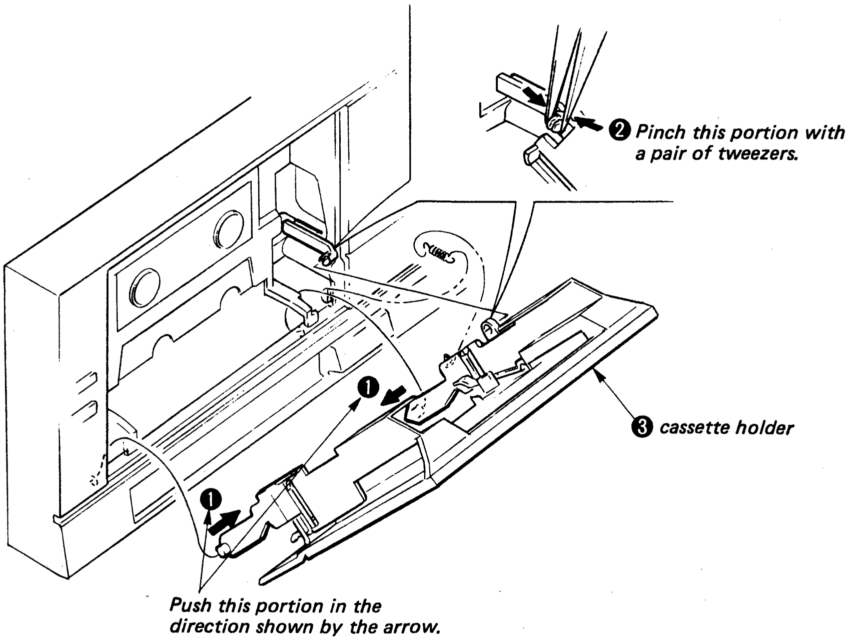
CASE REMOVAL

- Remove case by taking out four screws securing case.

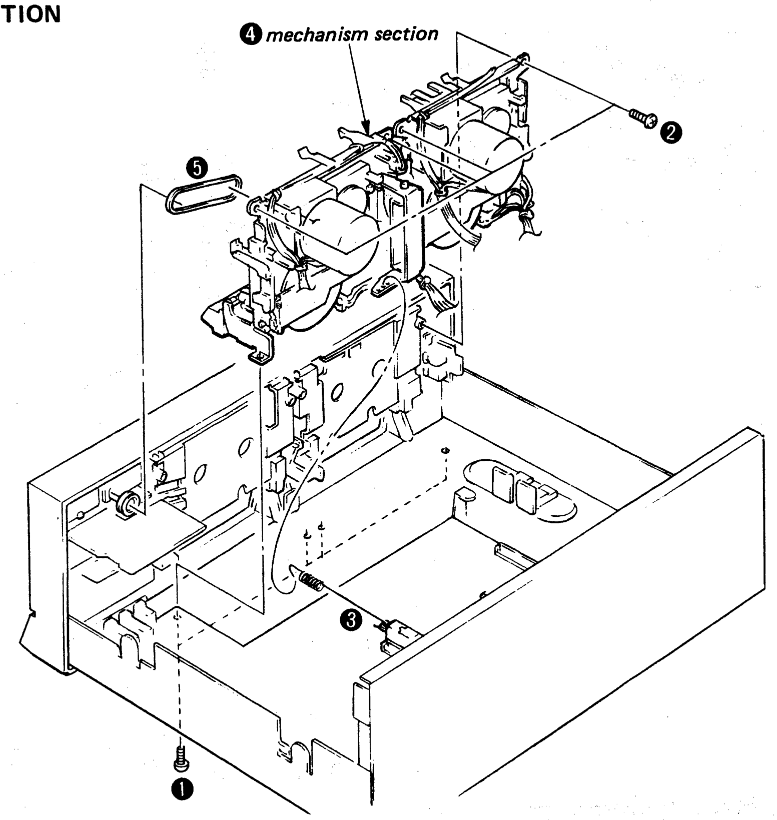
FRONT PANEL


❸ front panel
❷
❶

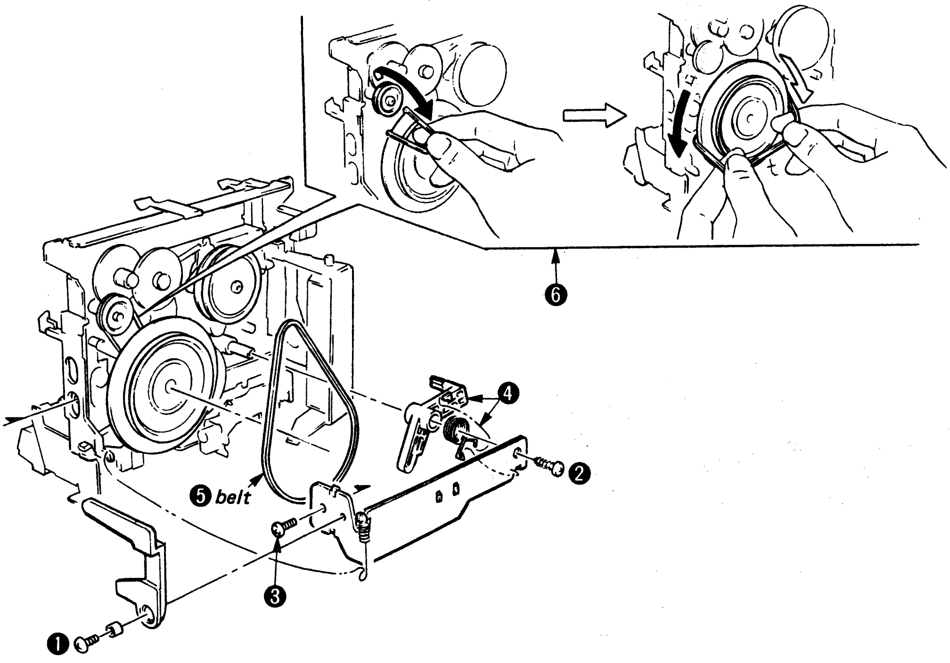
CASSETTE HOLDER


❷ Pinch this portion with a pair of tweezers.
❶
❶
❸ cassette holder
Push this portion in the direction shown by the arrow.

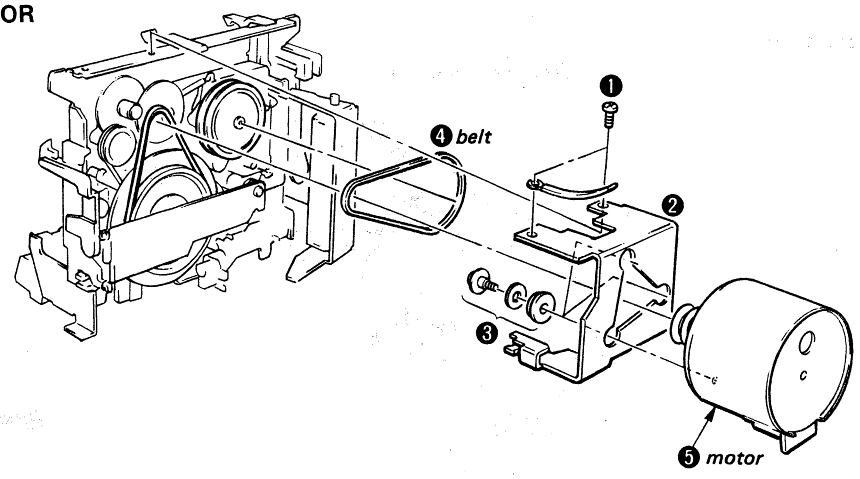
MECHANISM SECTION


❹ mechanism section
❷
❺
❸
❶

BELT

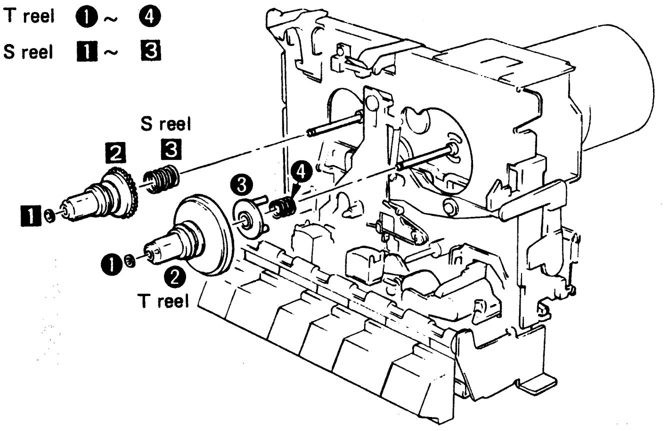

❻
❹
❷
❺ belt
❸
❶

MOTOR

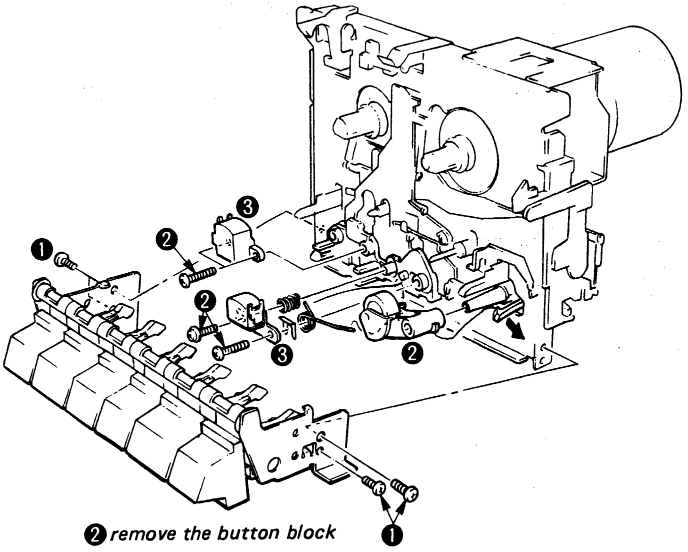

❶
❷
❸
❹ belt
❺ motor

T REEL , S REEL

T reel ❶ ~ ❹
S reel 1 ~ 3


S reel
2
3
1
❸
❹
❶
❷
T reel

HEAD BLOCK


❶
❷
❸
❷
❸
❷
❷ remove the button block
❶

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

No mechanical adjustments applied to this unit.

- Torque Measurement

Mode	Torque Meter	Torque
FWD	CQ-102C	35 – 70 g·cm (0.49 – 0.97 oz·inch)
FF	CQ-201B	70 – 160 g·cm (0.97 – 2.22 oz inch)
REW	CQ-201B	70 – 160 g cm (0.97 – 2.22 oz·inch)
FWD back tension	CQ-102C	2 – 6 g·cm (0.028 – 0.083 oz·inch)

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

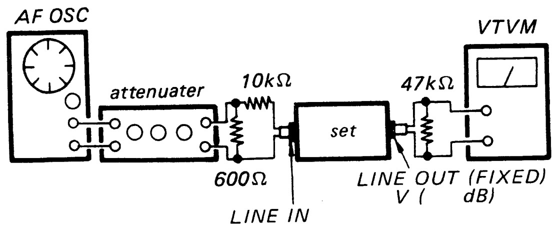
- Set the TAPE switches according to the tape as follows.

Tape	Tape Switch
CS-17	TYPE I NORMAL
CS-26	TYPE II CrO$_2$
CS-42	TYPE IV METAL

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch: OFF
  TAPE SELECT switch: TYPE I NORMAL

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

–Record Mode–


AF OSC
attenuater
10kΩ
600Ω
LINE IN
set
47kΩ
VTVM
LINE OUT (FIXED)
V (dB)

Standard Input Level

	LINE IN
source impedance	10kΩ
input level	0.25V (–10 dB)

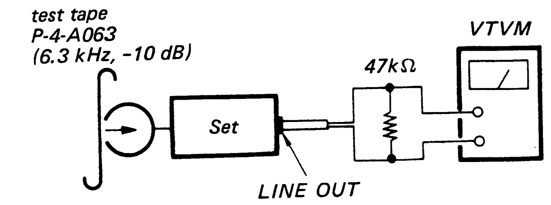
Standard Output Level

	LINE OUT
load impedance	47kΩ
output level	0.435V (–5 dB)

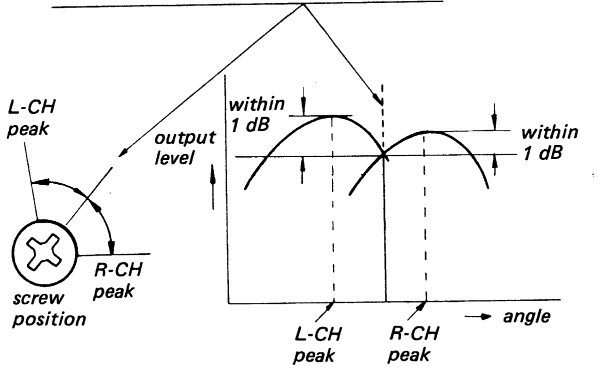
Record/playback Head Azimuth Adjustment

Procedure:

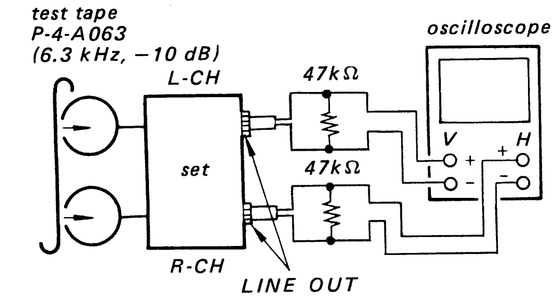
1. Mode: playback

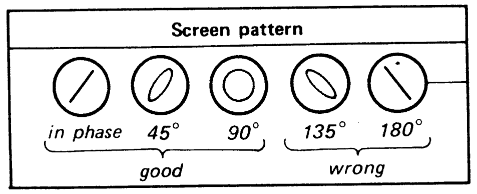

test tape
P-4-A063
(6.3 kHz, -10 dB)
Set
47kΩ
VTVM
LINE OUT

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.

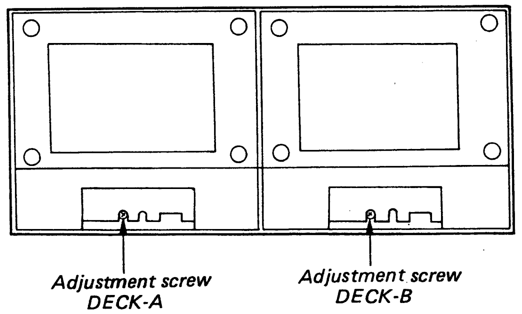


3. Phase Check
   Mode: playback


test tape
P-4-A063
(6.3 kHz, –10 dB)
L-CH
set
R-CH
47kΩ
47kΩ
LINE OUT
oscilloscope
V
H
+
–
+
–


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

Adjustment Location:


Adjustment screw
DECK-A
Adjustment screw
DECK-B

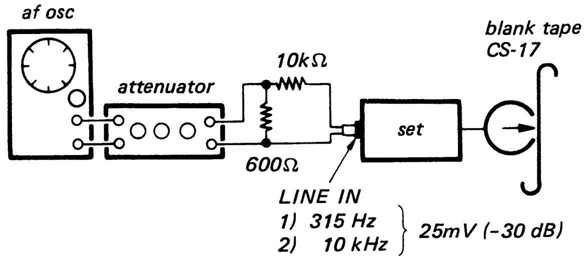
Record Bias Adjustment

Setting:

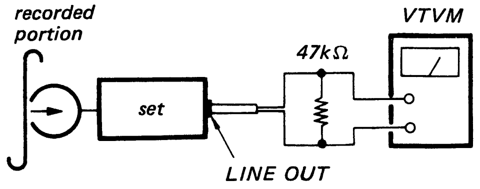
REC LEVEL control: standard record
(See page 7)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-17
LINE IN
1) 315 Hz
2) 10 kHz
25mV (–30 dB)

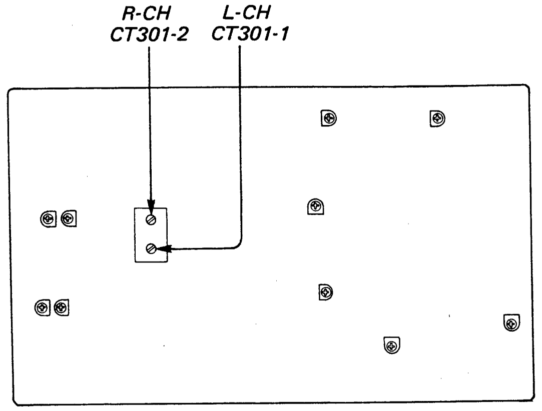
2. Mode: playback


recorded
portion
set
47kΩ
VTVM
LINE OUT

Play back the tape reccorded in step 1.
Confirm that the LINE OUT level of 10 kHz signal is 0 dB relative to that of 315 Hz. If not, adjust the CT301-1 (L-CH), CT301-2 (R-CH) and repeat steps 1 and 2.

Specification: 0 ± 0.5 dB

Adjustment Location:


R-CH
CT301-2
L-CH
CT301-1

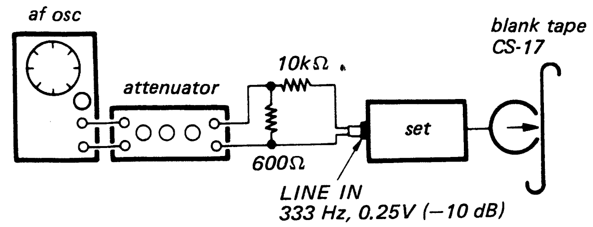
Record Level Adjustment

Setting:

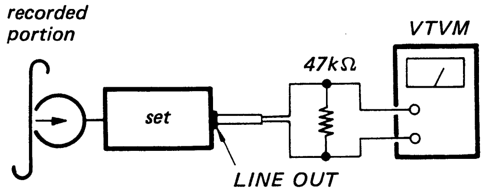
REC LEVEL control: standard record
(See page 8)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-17
LINE IN
333 Hz, 0.25V (–10 dB)

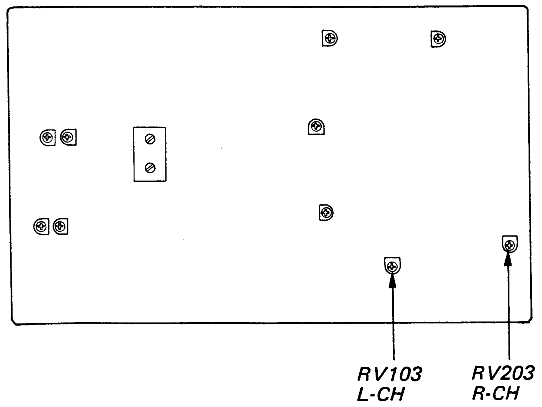
2. Mode: playback


recorded
portion
set
47kΩ
VTVM
LINE OUT

Specification:

LINE OUT level: 0.41 ~ 0.46 V
(–5.5 ~ –4.5 dB)

Adjustment Location:


RV103
L-CH
RV203
R-CH

Tape

Proce

M

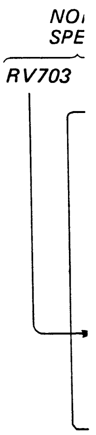
1.

Sp

Sp

2.

Adju


NO
SPE
RV703

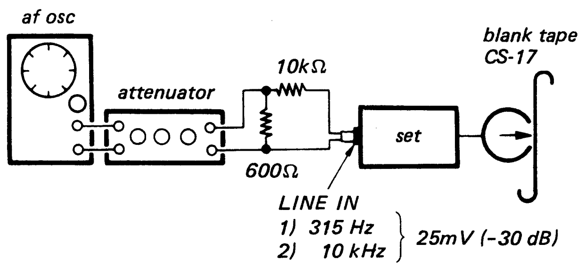
Record Bias Adjustment

Setting:

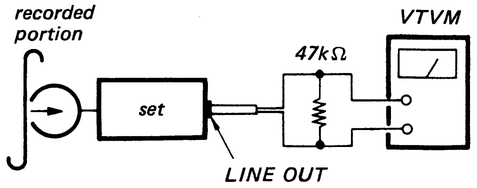
REC LEVEL control: standard record (See page 7)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-17
LINE IN
1) 315 Hz
2) 10 kHz
25mV (-30 dB)

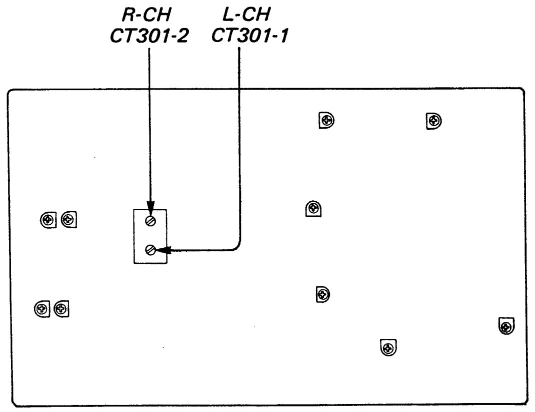
2. Mode: playback


recorded
portion
set
47kΩ
VTVM
LINE OUT

Play back the tape reccorded in step 1. Confirm that the LINE OUT level of 10 kHz signal is 0 dB relative to that of 315 Hz. If not, adjust the CT301-1 (L-CH), CT301-2 (R-CH) and repeat steps 1 and 2.

Specification: 0 ± 0.5 dB

Adjustment Location:


R-CH
CT301-2
L-CH
CT301-1

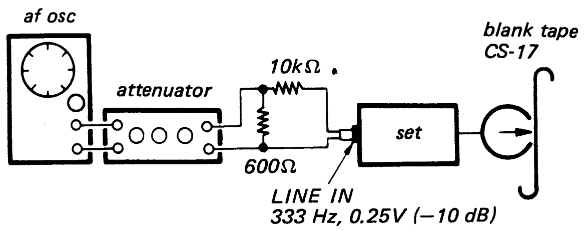
Record Level Adjustment

Setting:

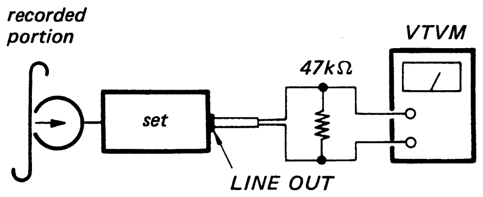
REC LEVEL control: standard record (See page 8)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-17
LINE IN
333 Hz, 0.25V (–10 dB)

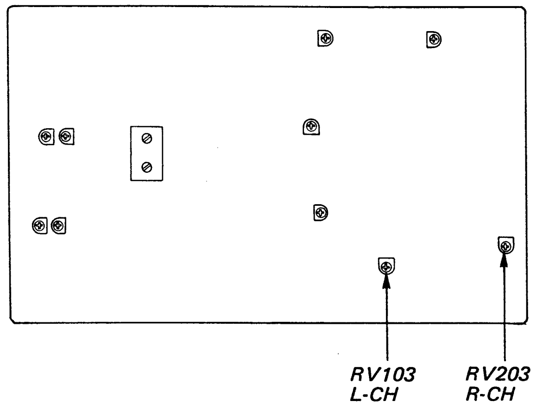
2. Mode: playback


recorded
portion
set
47kΩ
VTVM
LINE OUT

Specification:

LINE OUT level: 0.41 ~ 0.46 V (–5.5 ~ –4.5 dB)

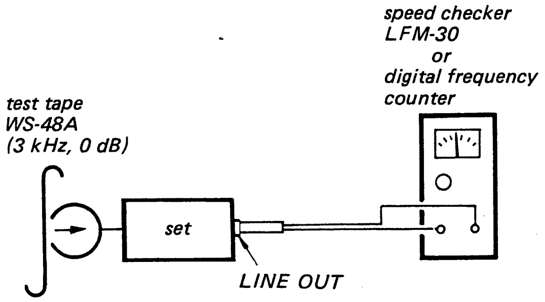
Adjustment Location:


RV103
L-CH
RV203
R-CH

Tape Speed Adjustment

Procedure

Mode: playback


speed checker
LFM-30
or
digital frequency
counter
test tape
WS-48A
(3 kHz, 0 dB)
set
LINE OUT

1. NORMAL SPEED

DECK-A...... RV701
DECK-B...... RV703

Specification:

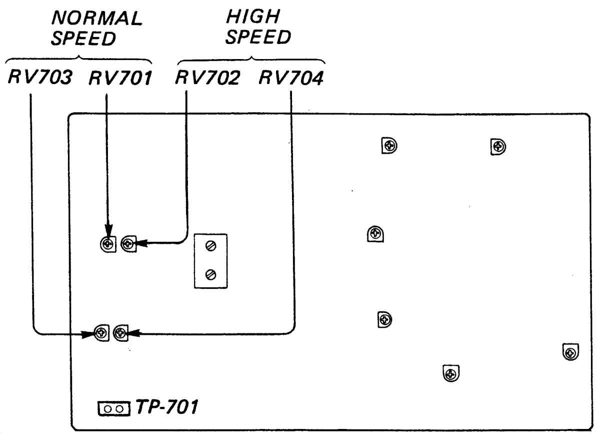
Speed checker	Digital frequency counter
± 0.6%	2980 ~ 3020 Hz

2. HIGH SPEED

Solder - bridge TP701.
DUBBING speed switch ...... HIGH
DECK-A...... RV702
DECK-B...... RV704
After adjustment, unsolder - bridge.

Speed checker	Digital frequency counter
± 0.6%	5960 ~ 6040 Hz

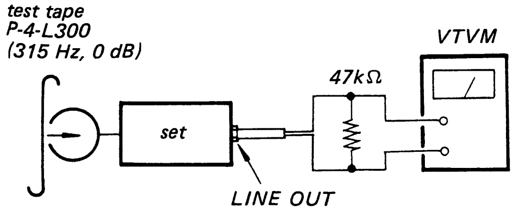
Adjustment Location:


NORMAL
SPEED
HIGH
SPEED
RV703
RV701
RV702
RV704
TP-701

Playback Level Adjustment

Procedure:

Mode: playback


test tape
P-4-L300
(315 Hz, 0 dB)
set
47kΩ
VTVM
LINE OUT

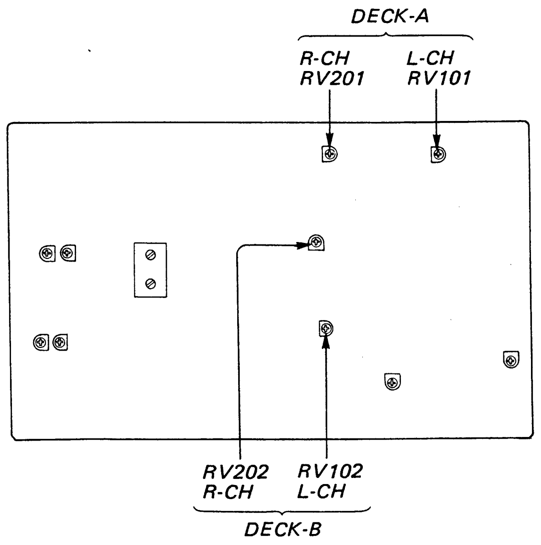
Specification:

LINE OUT level: 0.46 ~ 0.41V (–4.5 ~ –5.5 dB)

Level difference between channels: less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

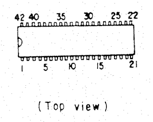
Adjustment Location:


DECK-A
R-CH
RV201
L-CH
RV101
RV202
R-CH
RV102
L-CH
DECK-B

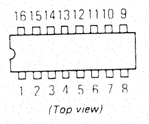
SECTION 4
DIAGRAMS

- **Semiconductor Lead Layouts**

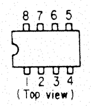
CX20187



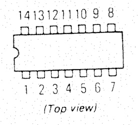
IR2E02



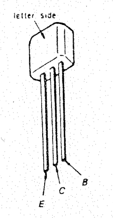
M5220P
NJM4558D



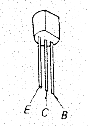
MB84011B
MB84066B
MB84069UB
MB84070B



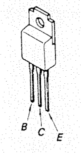
2SA1175
2SC2785


letter side
E
C
B

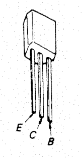
2SB1013
2SC945



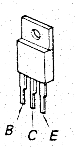
2SB1094-L



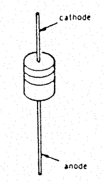
2SC2603F
DTA144ES
DTC144ES



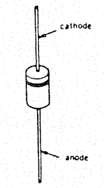
2SD1585-L



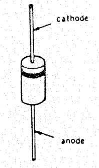
1SS202-1


cathode
anode

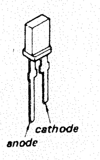
10E2N


cathode
anode

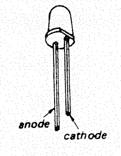
H76B1L


cathode
anode

GL-9PR2


cathode
anode

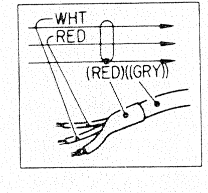
PR3432S


anode
cathode

Ref No.	Location	Ref No.	Location
D301	B-7	IC302	D-7
D302	F-6	IC303	D-4
D303	F-8	IC304	B-3
D401	A-7	IC305	F-4
D501	B-12	IC306	B-6
D502	B-11	IC307	B-3
D503	A-12	IC401	A-7
D504	A-11	IC701	F-11
D505	B-9	IC701	H-11
D701	F-11	IC702	F-9
D701	G-11	IC703	D-10
D702	E-11	IC704	F-10
D703	F12	IC704	H-10
D703	H-12		
D704	E-12	Q101	C-5
D704	G-12	Q102	A-3
D705	D-11	Q103	E-6
D706	D-9	Q104	F-5
D707	E-9	Q105	F-5
D708	F-10	Q106	H-4
D708	G-10	Q107	H-4
D709	E-9	Q201	C-1
D710	E-10	Q201	C-4
D711	E-9	Q202	B-4
D712	D-9	Q203	E-6
D713	D-10	Q204	F-3
D714	E-10	Q205	F-3
D715	E-8	Q206	H-3
D716	E-11	Q207	H-3
D717	D-11	Q301	B-7
D717	D-14	Q302	B-2
D718	D-11	Q303	A-4
D719	D-11	Q304	E-7
D720	C-11	Q305	E-8
D721	C-12	Q306	H-4
D722	D-10	Q307	C-8
D723	D-10	Q308	C-9
D724	E-10	Q309	C-9
D725	B-12	Q310	D-9
D727	F-10	Q501	A-13
D727	H-10	Q502	B-13
D728	F-11	Q503	B-9
D728	H-11	Q504	A-9
D750	C-12	Q505	B-9
D751	G-17	Q506	A-9
D751	H-17	Q701	F-12
D752	G-17	Q701	H-12
D752	H-17	Q702	E-12
D753	E-14	Q704	E-10
		Q705	E-12
IC101	H-15	Q706	C-11
IC102	H-16	Q707	C-11
IC301	B-5		

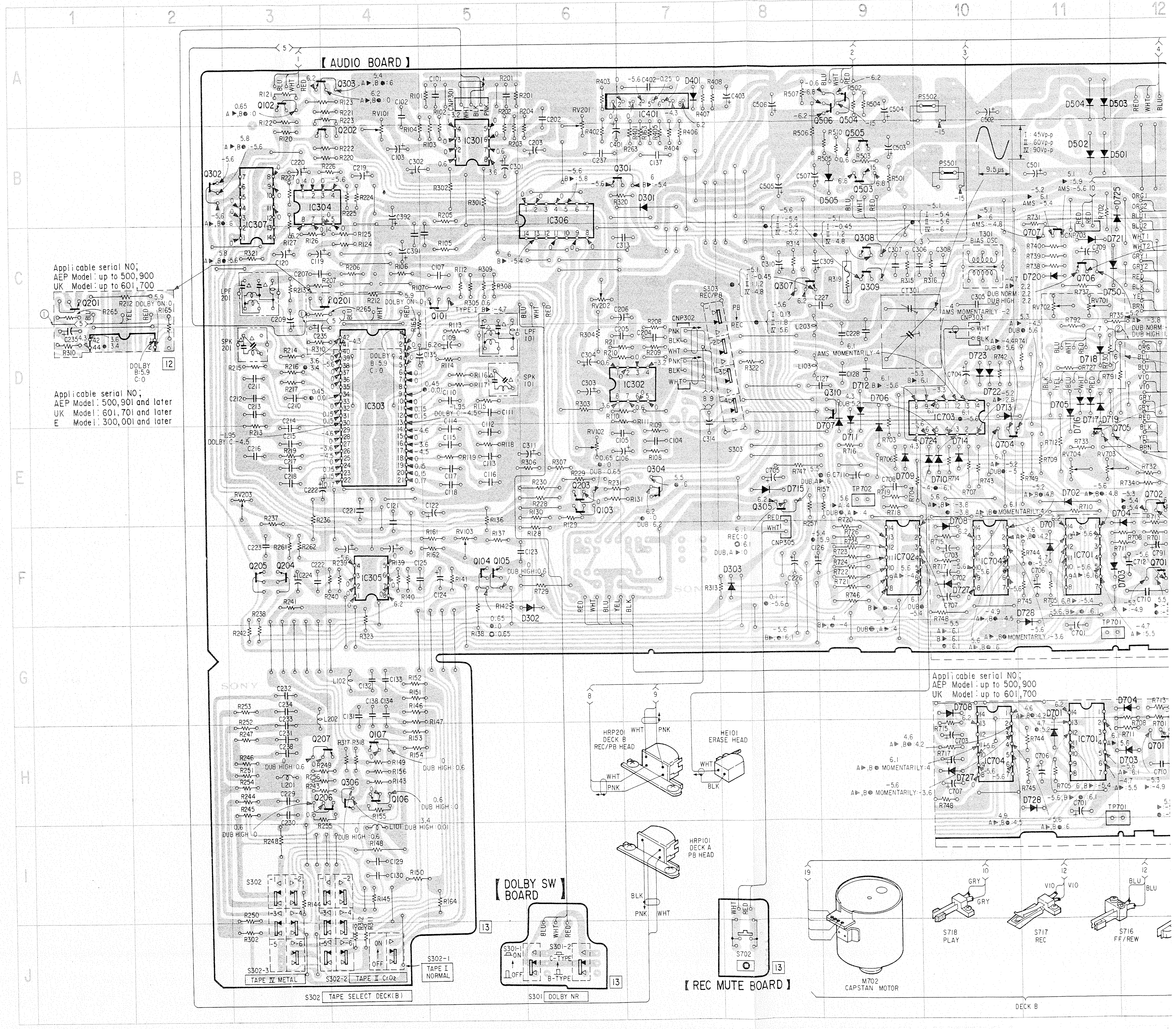
Note:

- Color code of sleeving over the end of the jacke


WHT
RED
(RED)((GRY))

- ○—— : parts extracted from the component side

4-1. MOUNTING DIAGRAM


1
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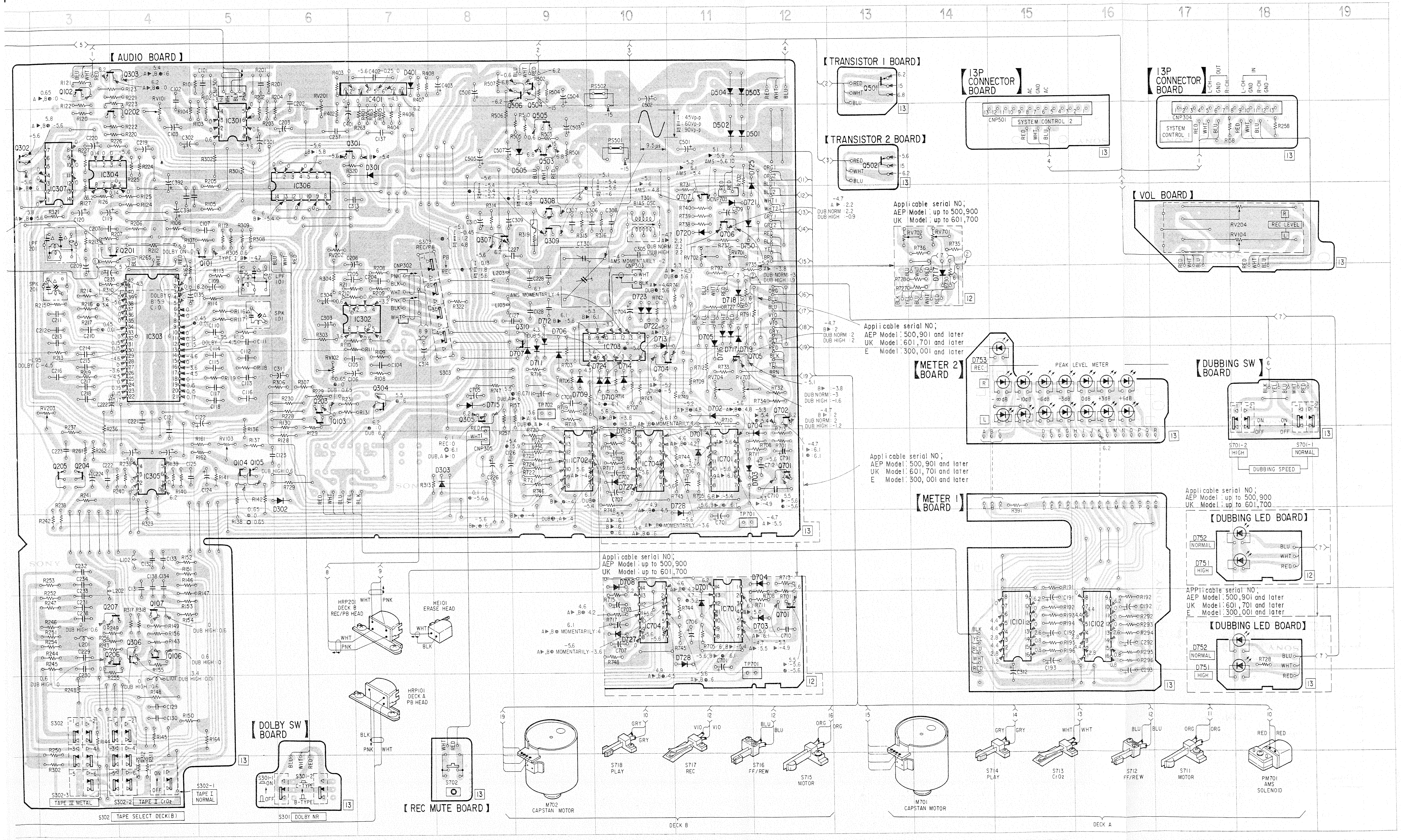
I
J
【AUDIO BOARD】
【DOLBY SW BOARD】
【REC MUTE BOARD】
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC401
IC701
IC702
IC703
IC704
HRP201 DECK B REC/PB HEAD
HE101 ERASE HEAD
HRP101 DECK A PB HEAD
M702 CAPSTAN MOTOR
S302 TAPE SELECT DECK(B)
S302-3 TAPE IV METAL
S302-2 TAPE II CrO2
S302-1 TAPE I NORMAL
S301 DOLBY NR
S301-1 ON OFF
S301-2 C-TYPE B-TYPE
S702
S718 PLAY
S717 REC
S716 FF/REW
DECK B
SONY

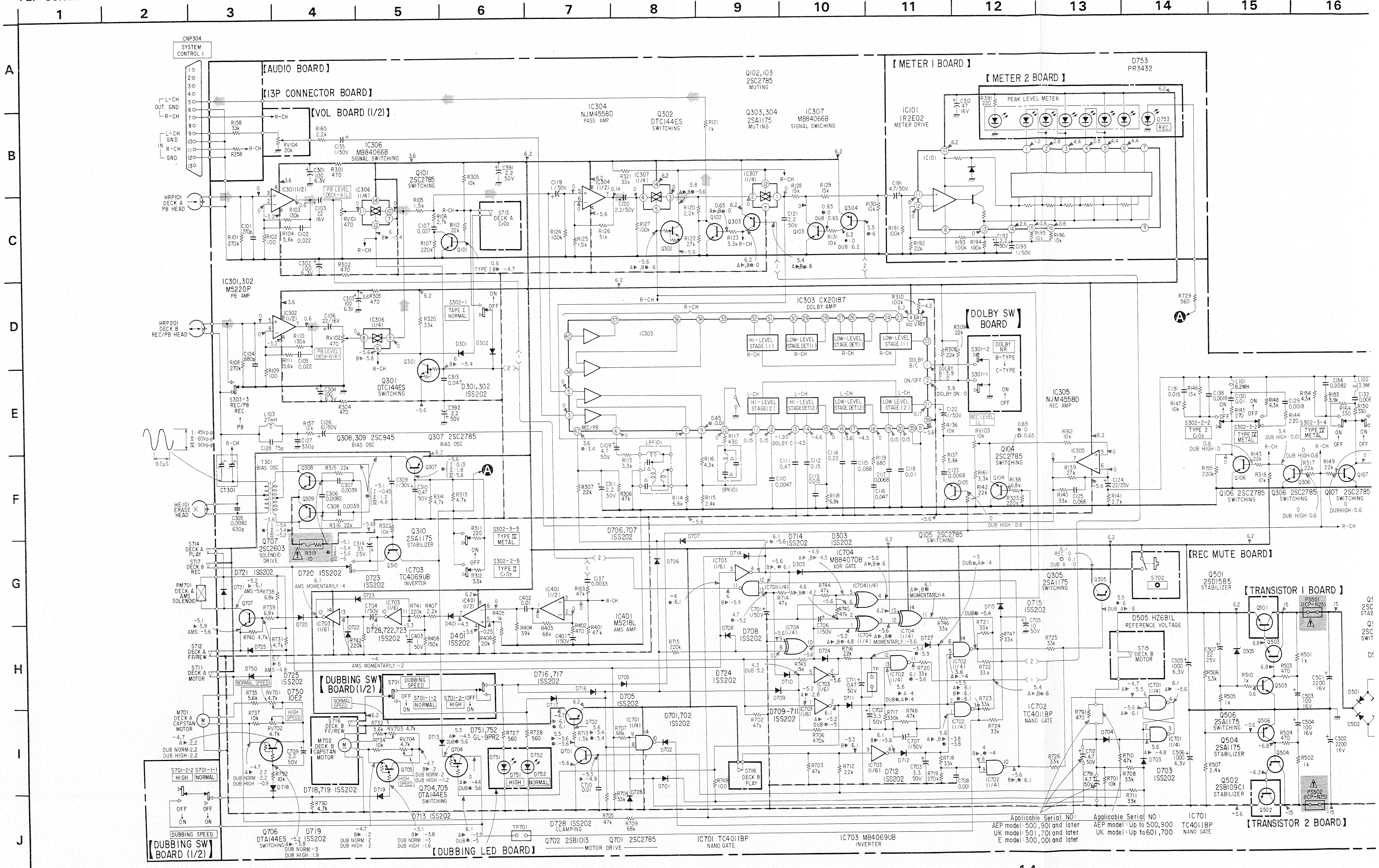
Applicable serial NO;
AEP Model : up to 500,900
UK Model : up to 601,700

Applicable serial NO;
AEP Model : 500,901 and later
UK Model : 601,701 and later
E Model : 300,001 and later

Applicable serial NO;
AEP Model : up to 500,900
UK Model : up to 601,700


【AUDIO BOARD】
【TRANSISTOR 1 BOARD】
【TRANSISTOR 2 BOARD】
【13P CONNECTOR BOARD】
SYSTEM CONTROL 2
【13P CONNECTOR BOARD】
SYSTEM CONTROL
【VOL BOARD】
REC LEVEL
Applicable serial NO;
AEP Model: up to 500,900
UK Model: up to 601,700
Applicable serial NO;
AEP Model: 500,901 and later
UK Model: 601,701 and later
E Model: 300,001 and later
【METER 2 BOARD】
PEAK LEVEL METER
-∞dB -10dB -6dB -3dB 0dB +3dB +6dB
【DUBBING SW BOARD】
S701-2 HIGH
S701-1 NORMAL
DUBBING SPEED
Applicable serial NO;
AEP Model: 500,901 and later
UK Model: 601,701 and later
E Model: 300,001 and later
【METER 1 BOARD】
Applicable serial NO;
AEP Model: up to 500,900
UK Model: up to 601,700
【DUBBING LED BOARD】
D752 NORMAL
D751 HIGH
APPlicable serial NO;
AEP Model: 500,901 and later
UK Model: 601,701 and later
E Model: 300,001 and later
【DUBBING LED BOARD】
D752 NORMAL
D751 HIGH
Applicable serial NO;
AEP Model: up to 500,900
UK Model: up to 601,700
HRP201 DECK B REC/PB HEAD
HE101 ERASE HEAD
HRP101 DECK A PB HEAD
【DOLBY SW BOARD】
S301-1 ON OFF
S301-2 C-TYPE B-TYPE
S301 DOLBY NR
【REC MUTE BOARD】
S702
S302-3 TAPE Ⅳ METAL
S302-2 TAPE Ⅱ CrO2
S302-1 TAPE Ⅰ NORMAL
S302 TAPE SELECT DECK(B)
M702 CAPSTAN MOTOR
S718 PLAY
S717 REC
S716 FF/REW
S715 MOTOR
DECK B
M701 CAPSTAN MOTOR
S714 PLAY
S713 CrO2
S712 FF/REW
S711 MOTOR
PM701 AMS SOLENOID
DECK A
T301 BIAS OSC
I 45Vp-p
II 60Vp-p
IV 90Vp-p
9.5μs
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC401
IC701
IC702
IC703
IC704
IC101
IC102
DOLBY B-5.3 C:0
S303 REC/PB
DUB NORM 2.2
DUB HIGH -0.9
AMS MOMENTARILY -2
A▶,B● MOMENTARILY 4
A▶,B● MOMENTARILY -3.6

4-2. SCHEMATIC DIAGRAM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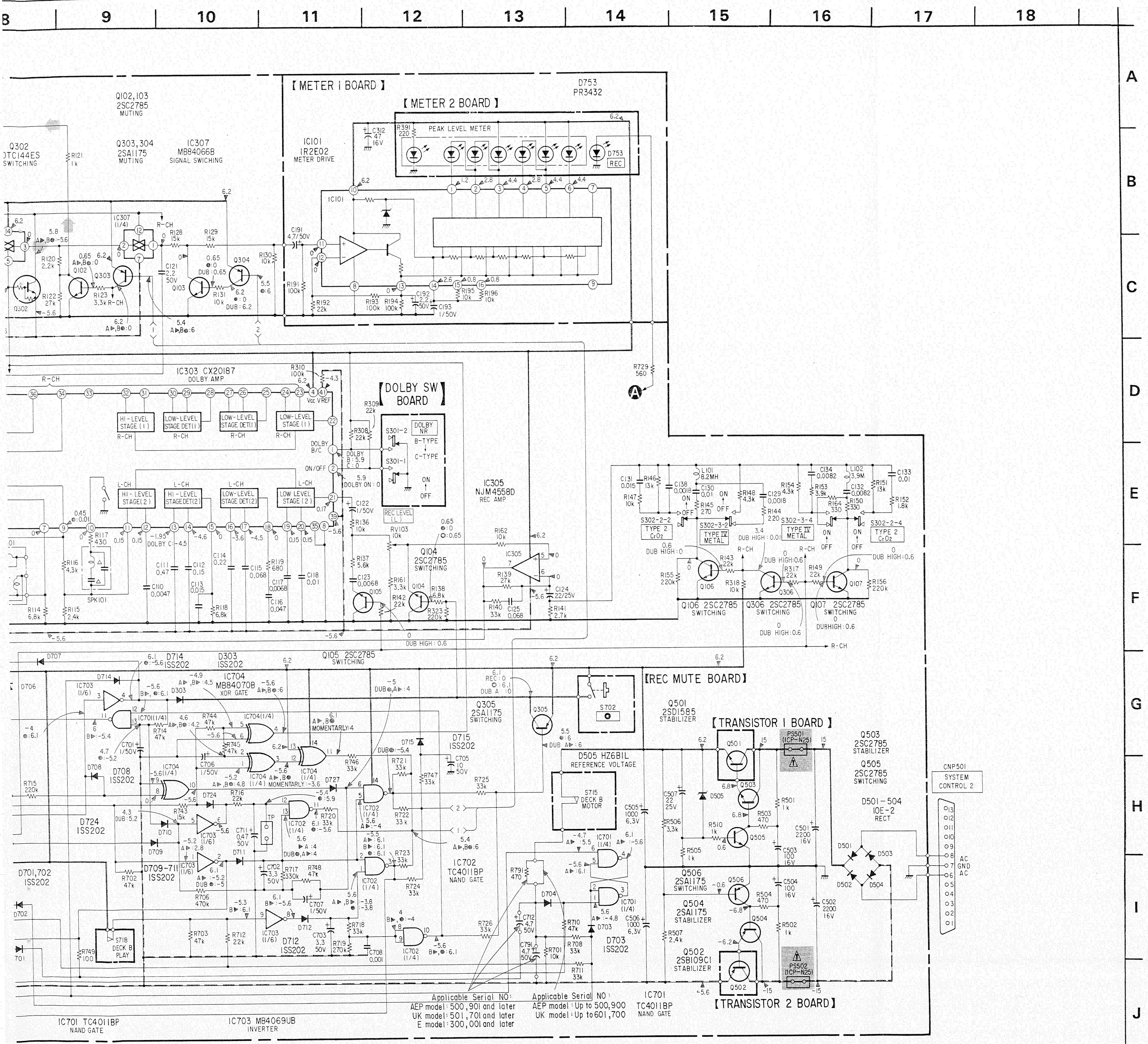
J
CNP304 SYSTEM CONTROL 1
[AUDIO BOARD]
[13P CONNECTOR BOARD]
[VOL BOARD (1/2)]
L-CH OUT GND R-CH
L-CH GND IN R-CH GND
HRP101 DECK A PB HEAD
HRP201 DECK B REC/PB HEAD
HE101 ERASE HEAD
IC306 MB84066B SIGNAL SWITCHING
Q101 2SC2785 SWITCHING
IC301,302 M5220P PB AMP
Q301 DTC144ES SWITCHING
D301,302 1SS202
S713 DECK A CrO2
S302-1 TAPE I NORMAL
S303-3 REC/PB
Q308,309 2SC945 BIAS OSC
Q307 2SC2785 BIAS OSC
T301 BIAS OSC
CT301
S302-3-5 TYPE IV METAL
S302-2-5 TYPE II CrO2
Q707 2SC2603 SOLENOID DRIVE
Q310 2SA1175 STABILIZER
IC703 TC4069UB INVERTER
IC304 NJM4558D PASS AMP
Q302 DTC144ES SWITCHING
Q102,103 2SC2785 MUTING
Q303,304 2SA1175 MUTING
IC307 MB84066B SIGNAL SWICHING
IC303 CX20187 DOLBY AMP
HI-LEVEL STAGE (1)
LOW-LEVEL STAGE DET(1)
HI-LEVEL STAGE (2)
LOW-LEVEL STAGE DET(2)
LOW LEVEL STAGE (2)
LPF101
SPK101
[METER 1 BOARD]
[METER 2 BOARD]
D753 PR3432
PEAK LEVEL METER
REC
IC101 IR2E02 METER DRIVE
[DOLBY SW] BOARD
S301-2 DOLBY NR B-TYPE C-TYPE
S301-1 ON OFF
Q104 2SC2785 SWITCHING
IC305 NJM4558D REC AMP
Q105 2SC2785 SWITCHING
Q106 2SC2785 SWITCHING
Q306 2SC2785 SWITCHING
Q107 2SC2785 SWITCHING
S302-2-2 TYPE 2 CrO2
S302-3-2 TYPE IV METAL
S302-3-4 TYPE IV METAL
IC401 M5218L AMS AMP
D401 1SS202
D706,707 1SS202
D714 1SS202
D303 1SS202
IC704 MB84070B XOR GATE
Q305 2SA1175 SWITCHING
S702
[REC MUTE BOARD]
Q501 2SD1585 STABILIZER
[TRANSISTOR 1 BOARD]
PS501 (ICP-N25)
D505 HZ6B1L REFERENCE VOLTAGE
S715 DECK B MOTOR
IC702 TC4011BP NAND GATE
IC701 TC4011BP NAND GATE
D703 1SS202
Q506 2SA1175 SWITCHING
Q504 2SA1175 STABILIZER
Q502 2SB1091C1 STABILIZER
PS502 (ICP-N25)
[TRANSISTOR 2 BOARD]
S714 DECK A PLAY
S717 DECK B REC
PM701 DECK A AMS SOLENOID
S712 DECK A FF/REW
S711 DECK A MOTOR
M701 DECK A CAPSTAN MOTOR
D721 1SS202
D720 1SS202
D723 1SS202
D728,722,723 1SS202
D725 1SS202
D750 10E2
[DUBBING SW] BOARD (1/2)
S701 DUBBING SPEED
S701-1-2 NORMAL
S701-1-2 OFF HIGH ON
S716 DECK B FF/REW
M702 DECK B CAPSTAN MOTOR
Q704,705 DTA144ES SWITCHING
D718,719 1SS202
D713 1SS202
D751,752 GL-9PR2
D751 HIGH
D752 NORMAL
D716,717 1SS202
D705 1SS202
D701,702 1SS202
S718 DECK B PLAY
D724 1SS202
D708 1SS202
D709-711 1SS202
D712 1SS202
D715 1SS202
D704
S701-2-2 S701-1-1 HIGH NORMAL
OFF ON OFF ON
DUBBING SPEED
[DUBBING SW BOARD (1/2)]
Q706 DTA144ES SWITCHING
D719 1SS202
TP701
[DUBBING LED BOARD]
D728 1SS202 CLAMPING
Q702 2SB1013
Q701 2SC2785
MOTOR DRIVE
IC701 TC4011BP NAND GATE
IC703 MB84069UB INVERTER
Applicable Serial NO: AEP model: 500,901 and later UK model: 501,701 and later E model: 300,001 and later
Applicable Serial NO: AEP model: Up to 500,900 UK model: Up to 601,700
IC701 TC4011BP NAND GATE


8
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A
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D
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I
J
[METER 1 BOARD]
[METER 2 BOARD]
D753
PR3432
PEAK LEVEL METER
REC
Q102,103
2SC2785
MUTING
Q302
DTC144ES
SWITCHING
Q303,304
2SA1175
MUTING
IC307
MB84066B
SIGNAL SWICHING
IC101
IR2E02
METER DRIVE
IC303 CX20187
DOLBY AMP
HI-LEVEL STAGE(1)
LOW-LEVEL STAGE DET(1)
LOW-LEVEL STAGE(1)
HI-LEVEL STAGE(2)
LOW-LEVEL STAGE DET(2)
LOW LEVEL STAGE(2)
R-CH
L-CH
[DOLBY SW BOARD]
S301-2
DOLBY NR
B-TYPE
C-TYPE
S301-1
ON
OFF
IC305
NJM4558D
REC AMP
Q104
2SC2785
SWITCHING
Q105
SPK101
S302-2-2
TYPE 2 CrO2
S302-3-2
TYPE IV METAL
S302-3-4
TYPE IV METAL
S302-2-4
TYPE 2 CrO2
Q106 2SC2785
SWITCHING
Q306 2SC2785
SWITCHING
Q107 2SC2785
SWITCHING
DUB HIGH : 0.6
Q105 2SC2785
SWITCHING
D714
1SS202
D303
1SS202
IC704
MB84070B
XOR GATE
MOMENTARLY:4
Q305
2SA1175
SWITCHING
D715
1SS202
S702
[REC MUTE BOARD]
Q501
2SD1585
STABILIZER
[TRANSISTOR 1 BOARD]
PS501
(ICP-N25)
Q503
2SC2785
STABILIZER
Q505
2SC2785
SWITCHING
D501-504
10E-2
RECT
CNP501
SYSTEM CONTROL 2
AC
GND
AC
D505 HZ6B1L
REFERENCE VOLTAGE
S715
DECK B
MOTOR
D724
1SS202
D708
1SS202
D701,702
1SS202
D709-711
1SS202
S718
DECK B
PLAY
D712
1SS202
IC702
TC4011BP
NAND GATE
D703
1SS202
Q506
2SA1175
SWITCHING
Q504
2SA1175
STABILIZER
Q502
2SB1090C1
STABILIZER
PS502
(ICP-N25)
[TRANSISTOR 2 BOARD]
Applicable Serial NO:
AEP model: 500,901 and later
UK model: 501,701 and later
E model: 300,001 and later
Applicable Serial NO:
AEP model: Up to 500,900
UK model: Up to 601,700
IC701
TC4011BP
NAND GATE
IC701 TC4011BP
NAND GATE
IC703 MB84069UB
INVERTER

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⇨ : signal path.
- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- △ : internal component.
- fusible resistor.
- ▬ : B+ bus.
- ▬ ▬ : B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

A ▶ : PLAY (DECK-A)
B ▶ : PLAY (DECK-B)
● : REC
○ : REC MUTE
DUB : DUBBING

- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in no-signal mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Switch

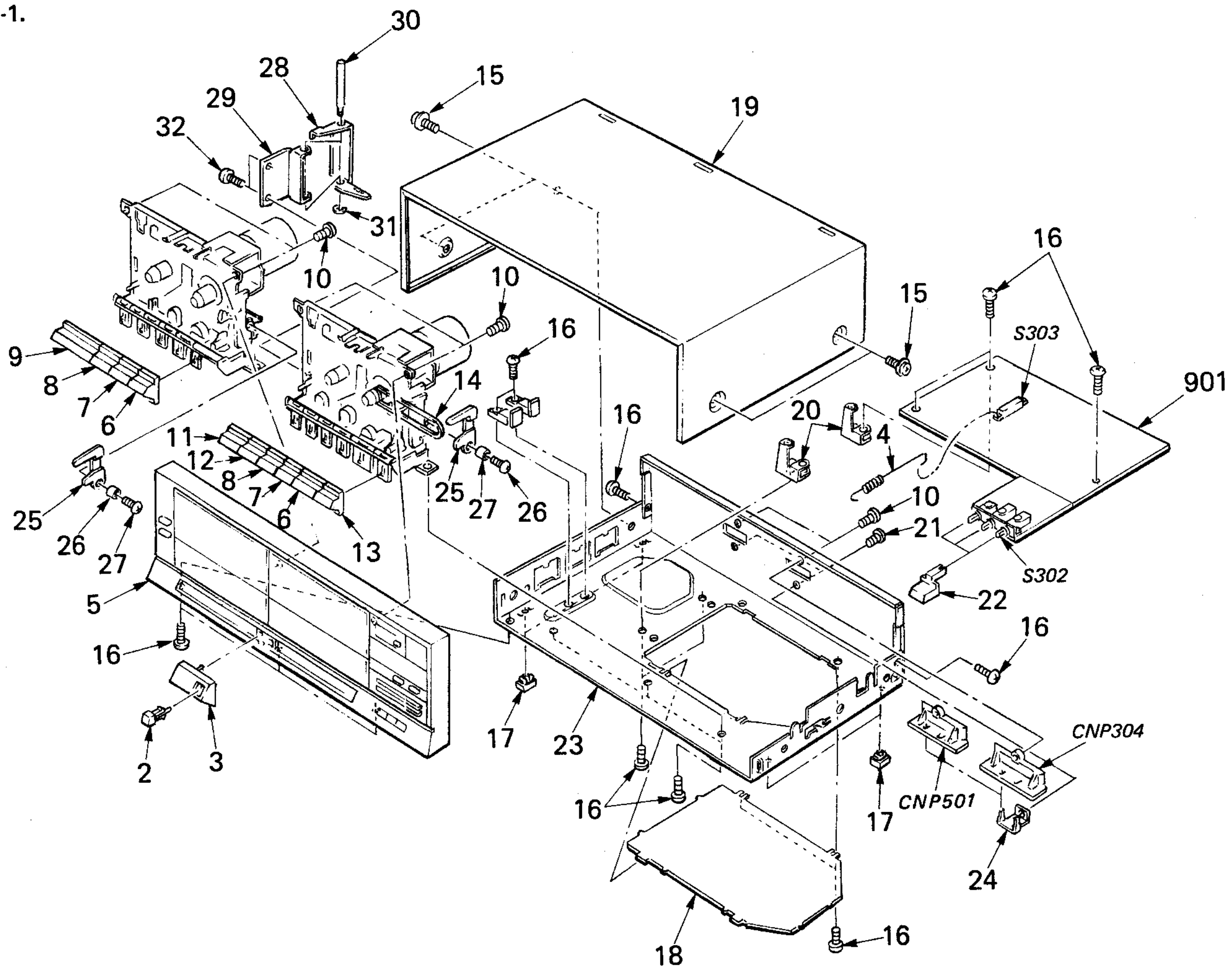
Ref.No	Switch	position
S301	DOLBY NR	OFF/B-TYPE
S302	TAPE SELECT	NORMAL
S303	REC/PB	PB
S701	DUBBING	OFF
S702	REC MUTE	OFF
S711	MOTOR (DECK-A)	OFF
S712	FF/REW (DECK-A)	OFF
S713	CrO_2 (DECK-A)	OFF
S714	PLAY (DECK-A)	OFF
S715	MOTOR (DECK-B)	OFF
S716	FF/REW (DECK-B)	OFF
S717	REC (DECK-B)	OFF
S718	PLAY (DECK-B)	OFF

SECTION 5
EXPLODED VIEW AND PARTS LIST

NOTE:

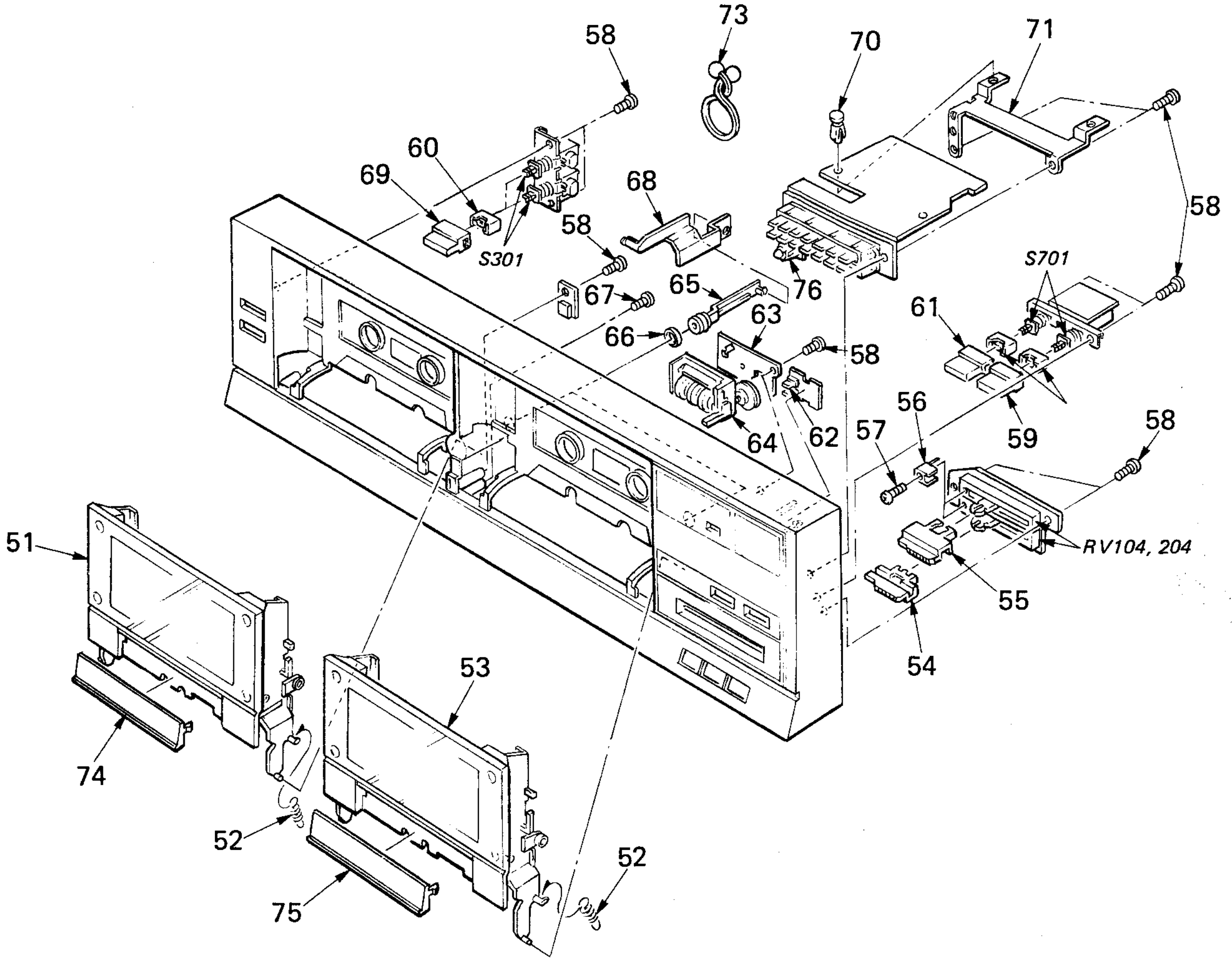
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

5-1.



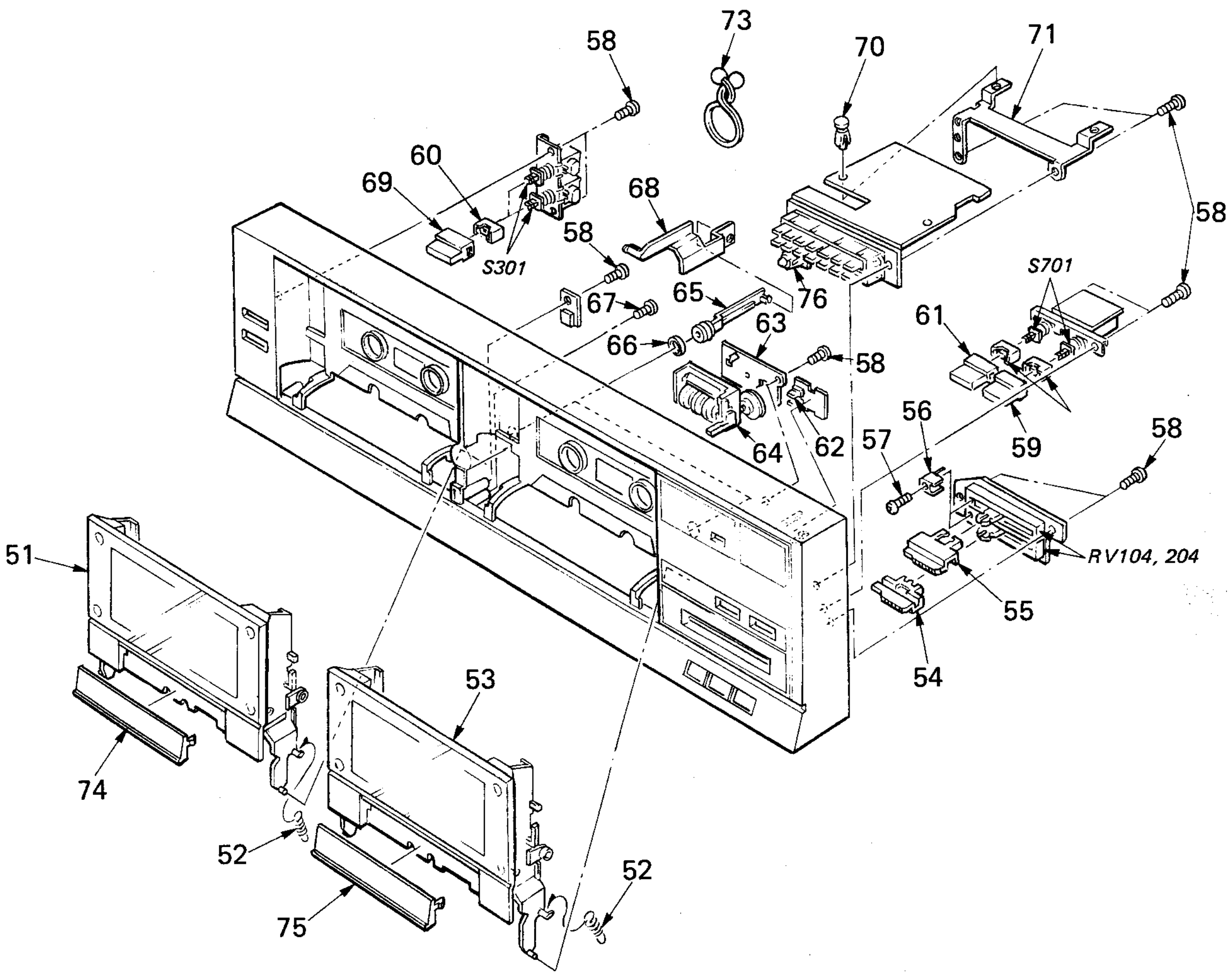
No.	Part No.	Description	Remarks
2	3-325-038-01	BUTTON, REC MUTE	
3	3-325-030-01	BUTTON, DUMMY	
4	3-325-037-01	SPRING	
5	X-3313-215-1	PANEL ASSY, FRONT	
6	4-909-926-11	BUTTON, STOP	
7	4-909-922-11	BUTTON, FF	
8	4-909-923-11	BUTTON, REW	
9	3-325-031-01	BUTTON (L), FWD	
10	7-685-146-19	SCREW +BTP 3X8 TYPE2 N-S	
11	4-909-928-11	BUTTON, REC	
12	4-909-921-11	BUTTON, FWD	
13	4-909-927-11	BUTTON, PAUSE	
14	3-308-460-00	BELT, CAPSTAN	
15	4-886-821-01	SCREW, M3 CASE	
16	7-685-752-04	SCREW +BVTT 3X8 (S)	
17	X-4907-603-1	FOOT ASSY	
18	*3-329-956-01	PLATE, BOTTOM	
19	3-329-967-01	CASE	
20	*3-329-950-01	BRACKET, PC BOARD	
21	7-685-751-09	SCREW +BVTT 3X6 (S)	
22	3-325-033-01	KNOB, TAPE SELECT	
23	*3-329-968-61	CHASSIS	
24	*4-906-828-01	STOPPER	
25	*3-325-023-01	LEVER, EJECT	
26	7-685-791-04	SCREW +BVTT 2.6X5 (S)	
27	3-325-028-01	COLLAR, EJECT	
28	*3-327-630-01	ARM, REC	
29	*3-327-629-01	BASE, REC	
30	*3-327-631-01	SHAFT, REC	
31	7-624-105-04	STOP RING 2.3, TYPE -E	
32	7-685-790-04	SCREW BVTT 2.6X4	
901	*A-2056-318-A	PC BOARD ASSY, AUDIO	
CNP304	1-562-068-13	SOCKET, CONNECTOR 13P	
CNP501	1-562-068-13	SOCKET, CONNECTOR 13P	
S302	1-570-529-11	SWITCH, PUSH (3 KEY)(TAPE SELECT)	
S303	1-554-033-00	SWITCH, SLISE (REC/PB)	

5-2.



No.	Part No.	Description	Remarks
51	X-3313-216-1	HOLDER ASSY (A), CASSETTE	
52	3-143-053-11	SPRING, TENSION	
53	X-3313-217-1	HOLDER ASSY (B), CASSETTE	
54	3-323-446-01	KNOB (LEFT), CONTROL	
55	3-323-447-01	KNOB (RIGHT), CONTROL	
56	*3-332-443-01	PLATE, GROUND, REC VOL	
57	7-627-553-18	SCREW, PRECISION +P 2X2	
58	7-685-146-19	SCREW +BTP 3X8 TYPE2 N-S	
59	3-318-909-61	KNOB, PUSH	
60	4-864-307-00	RING	
61	3-318-909-71	KNOB, PUSH	
62	*3-315-146-00	HOLDER, LED	
63	*3-325-020-01	BRACKET, COUNTER	
64	1-548-589-11	COUNTER, TAPE (MIDDLE TYPE)	
65	3-312-458-03	PISTON (A)	
66	3-312-441-00	RING, PISTON	
67	3-703-135-00	SCREW, TAPPING	
68	*3-325-026-01	LEVER (B), EJECT	
69	3-318-909-81	KNOB, PUSH	
70	3-531-576-11	RIVET	
71	*3-325-024-01	BRACKET, PC BOARD	
72	*3-318-941-01	SPACER, LED	
73	*2-056-666-00	HOLDER, WIRE	
74	3-325-022-01	HOLDER, AZIMUTH	
75	3-325-022-11	HOLDER, AZIMUTH	
76	*4-888-157-00	HOLDER, LED	
RV104	1-237-204-21	RES, VAR, SLIDE 20K	
RV204	1-237-204-21	RES, VAR, SLIDE 20K	
S301	1-570-531-11	SWITCH, PUSH (2 KEY)(DOLBY NR)	
S701	1-570-530-11	SWITCH, PUSH (2 KEY)(DUBBING)	

5-2.



No.	Part No.	Description	Remarks
51	X-3313-216-1	HOLDER ASSY (A), CASSETTE	
52	3-143-053-11	SPRING, TENSION	
53	X-3313-217-1	HOLDER ASSY (B), CASSETTE	
54	3-323-446-01	KNOB (LEFT), CONTROL	
55	3-323-447-01	KNOB (RIGHT), CONTROL	
56	*3-332-443-01	PLATE, GROUND, REC VOL	
57	7-627-553-18	SCREW, PRECISION +P 2X2	
58	7-685-146-19	SCREW +BTP 3X8 TYPE2 N-S	
59	3-318-909-61	KNOB, PUSH	
60	4-864-307-00	RING	
61	3-318-909-71	KNOB, PUSH	
62	*3-315-146-00	HOLDER, LED	
63	*3-325-020-01	BRACKET, COUNTER	
64	1-548-589-11	COUNTER, TAPE (MIDDLE TYPE)	
65	3-312-458-03	PISTON (A)	

No.	Part No.	Description	Remarks
66	3-312-441-00	RING, PISTON	
67	3-703-135-00	SCREW, TAPPING	
68	*3-325-026-01	LEVER (B), EJECT	
69	3-318-909-81	KNOB, PUSH	
70	3-531-576-11	RIVET	
71	*3-325-024-01	BRACKET, PC BOARD	
72	*3-318-941-01	SPACER, LED	
73	*2-056-666-00	HOLDER, WIRE	
74	3-325-022-01	HOLDER, AZIMUTH	
75	3-325-022-11	HOLDER, AZIMUTH	
76	*4-888-157-00	HOLDER, LED	
RV104	1-237-204-21	RES, VAR, SLIDE 20K	
RV204	1-237-204-21	RES, VAR, SLIDE 20K	
S301	1-570-531-11	SWITCH, PUSH (2 KEY)(DOLBY NR)	
S701	1-570-530-11	SWITCH, PUSH (2 KEY)(DUBBING)	

A DECK

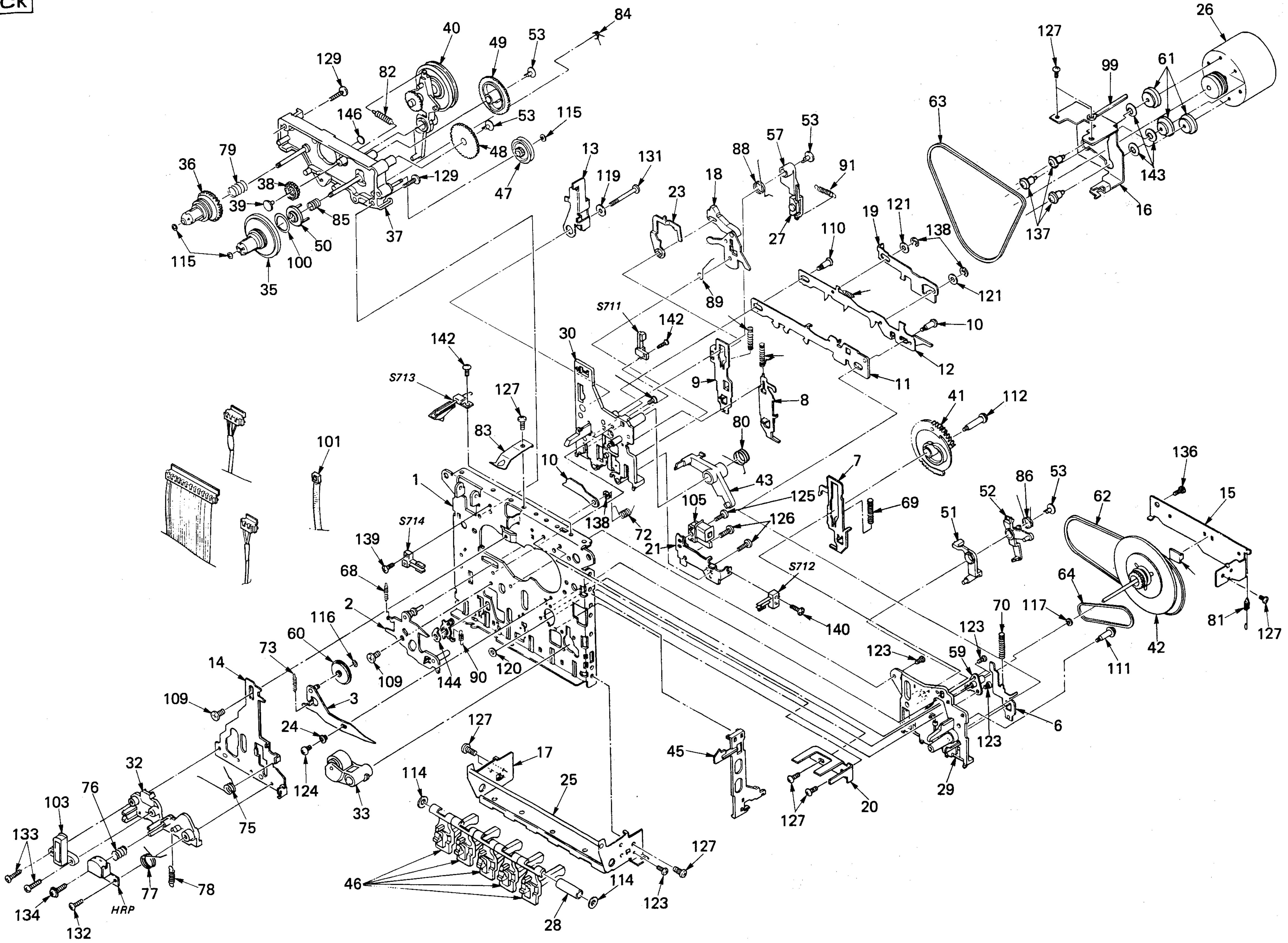
MECHANISM SECTION

No.	Part No.	Description
1	*3-595-901-01	CHASSIS
2	*X-3595-917-1	ARM ASSY, SHIFT
3	*X-3595-902-1	ARM (HT) ASSY, IDLER
6	*3-595-991-01	LEVER, STOP
7	*3-595-904-01	LEVER (H), FF
8	*3-595-905-01	LEVER (H), REW
9	*X-3595-912-1	LEVER (S) ASSY, PLAY
10	3-595-908-01	REC LEVER (BH)
11	*3-595-975-01	CAM (C), LOCK
12	X-3595-914-1	CAM (BS) ASSY, LOCK
13	3-596-021-01	HOLDER, TRIGGER
14	*3-595-912-01	CHASSIS, HEAD
15	*3-595-993-01	BRACKET, FLYWHEEL
16	*3-596-024-01	HOLDER, MOTOR
17	3-596-020-01	HOLDER (SON), BUTTON
18	X-3595-913-1	ARM ASSY, RC
19	*3-595-976-01	CAM (S), LOCK
20	*3-595-913-01	PROTECTOR, SWITCH
21	*3-595-906-01	BRACKET, SOLENOID
22	X-3595-915-1	ARM (N) ASSY, RC LOCK
23	*3-595-977-01	ARM, TRIGGER
24	3-595-919-01	COLLAR
25	*3-595-920-01	SHAFT, BUTTON
26	X-3595-921-1	MOTOR ASSY
27	3-595-979-01	SHAFT, CHIP
28	*3-596-018-01	COLLAR , BUTTON
29	3-595-922-01	HOLDER (A), LEVER
30	3-595-923-01	HOLDER (B), LEVER
32	*3-595-926-01	BASE, HEAD
33	X-3595-905-1	ARM ASSY, P ROLLER
35	X-3595-906-1	REEL ASSY, TAKE-UP
36	X-3595-907-1	REEL ASSY, SUPPLY
37	X-3595-908-1	BASE ASST (B), REEL
38	3-595-927-01	GEAR, FF
39	3-595-928-01	BUSHING
40	X-3595-919-1	ARM ASSY, CLUTCH
41	3-595-929-01	GEAR (C)
42	X-3595-920-1	FLYWHEEL ASSY (S)
43	3-595-930-01	ARM (H), LOCK
44	3-595-931-01	SPACER, CAPSTAN
45	3-595-932-01	LEVER (F), EJECT
46	3-595-933-01	LEVER, BUTTON
47	3-595-935-01	PULLEY, AUTO
48	3-595-936-01	GEAR, AUTO
49	3-595-937-01	GEAR, AUTO CAM
50	3-595-938-01	CLUTCH, AUTO
51	3-595-939-01	ARM (B), AUTO
52	3-595-940-01	ARM, AUTO LOCK
53	3-595-934-01	BUSHING
57	3-595-980-01	ARM, SOLENOID
59	X-3595-911-1	HOUSING ASSY
60	3-595-941-01	IDLER, PLAY
61	3-595-945-01	CUSHION, MOTOR
62	3-595-998-01	BELT, DRIVE
63	3-596-010-01	BELT, FR
64	3-595-944-01	BELT, AUTO

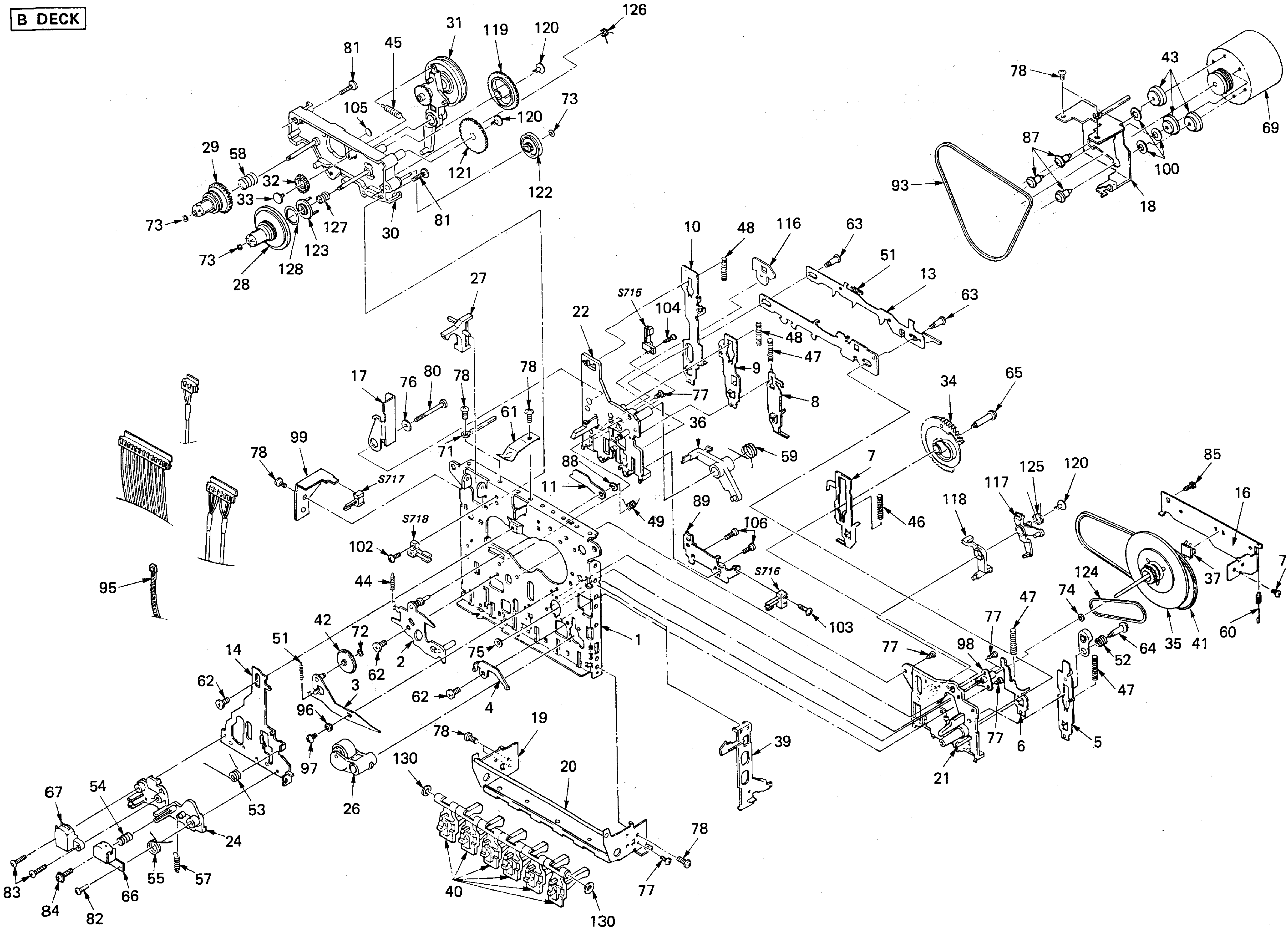
MECHANISM SECTION

No.	Part No.	Description
68	3-595-946-01	SPRING (C)
69	3-595-947-01	SPRING
70	3-595-948-01	SPRING
71	3-595-949-01	SPRING
72	3-595-950-01	SPRING (B)
73	3-595-951-01	SPRING
75	3-595-953-01	SPRING
76	3-595-954-01	SPRING
77	3-595-955-01	SPRING
78	3-595-956-01	SPRING
79	3-595-957-01	SPRING
80	3-595-999-01	LOCK ARM SPRING
81	3-595-959-01	SPRING
82	3-595-963-01	SPRING
83	3-595-916-01	SPRING
84	3-595-960-01	SPRING
85	3-595-961-01	SPRING
86	3-595-962-01	SPRING
88	3-595-985-01	SPRING
89	3-595-981-01	SPRING
90	3-595-982-01	SPRING
91	3-595-984-01	SPRING (H)
99	*3-596-004-01	CLAMP, CORD
100	3-595-968-01	FELT, AUTO CLUTCH
103	*3-595-986-01	GUIDE, TAPE
109	3-595-964-01	SCREW (A)
110	3-595-965-01	SCREW (B)
111	3-595-966-01	SCREW (C)
112	3-595-967-01	SCREW (D)
114	3-701-441-11	WASHER
115	3-558-708-01	WASHER, STOPPER
116	3-595-969-01	WASHER, POLYSLIDER
117	3-701-437-21	WASHER
119	7-688-002-11	W 2.6, MIDDLE
120	3-595-970-01	WASHER, OIL STOP
121	3-701-439-01	WASHER
123	7-685-781-04	SCREW +PTT 2X4 (S)
124	7-685-782-01	SCREW +PTT 2X5 (S)
125	7-685-784-01	TAP TITE SCREW
126	7-685-786-01	SCREW +PTT 2X12 (S)
127	7-685-790-04	SCREW +PTT 2.6X4 (S)
129	7-685-793-04	SCREW +BVTT 2.6X8 (S)
131	7-685-868-01	TAP TITE SCREW
132	7-621-772-40	SCREW +B 2X8
133	3-596-016-01	SCREW (2X8.5), BINDING
134	3-595-972-01	SCREW (2X9), WASHER HEAD
136	7-685-792-04	SCREW +PTT 2.6X6 (S)
137	3-595-973-01	SCREW, MOTOR
138	7-624-104-04	STOP RING 2.0, TYPE -E
139	7-685-783-01	SCREW +PTT 2X6 (S)
140	7-685-864-01	SCREW +BVTT 2.6X10 (S)
142	7-685-791-04	SCREW +PTT 2.6X5 (S)
143	3-596-011-01	WASHER (B)
144	3-596-022-01	SEAL, RC LOCK ARM
146	3-596-013-01	WASHER (5.6X0.19), LUMILER

5-3. A DECK


S711
S713
S714
S712
HRP

5-4. B DECK


S715
S717
S718
S716

B DECK

MECHANISM SECTION

No.	Part No.	Description
1	*3-595-901-01	CHASSIS
2	*X-3595-917-1	ARM ASSY, SHIFT
3	*X-3595-902-1	ARM (HT) ASSY, IDLER
4	*3-595-902-01	ARM, PAUSE
5	*X-3595-903-1	LEVER (B) ASSY, PAUSE
6	*3-595-991-01	LEVER, STOP
7	*3-595-904-01	LEVER (H), FF
8	*3-595-905-01	LEVER (H), REW
9	*3-595-909-01	LEVER (B), PLAY
10	*3-595-992-01	LEVER (C), REC
11	*3-595-908-01	LEVER (BH), REC
12	*3-595-910-01	CAM (A), LOCK
13	*X-3595-904-1	CAM (B) ASSY, LOCK
14	*3-595-912-01	CHASSIS, HEAD
16	*3-595-993-01	BRACKET, FLYWHEEL
17	*3-595-994-01	ARM, REC
18	3-596-024-01	HOLDER, MOTOR
19	3-596-020-01	HOLDER (SON), BUTTON
20	*3-595-920-01	SHAFT, BUTTON
21	3-595-922-01	HOLDER (A), LEVER
22	3-595-923-01	HOLDER (B), LEVER
23	3-595-924-01	CAM, PAUSE
24	*3-595-926-01	BASE, HEAD
26	X-3595-905-1	ARM ASSY, P ROLLER
27	3-595-925-01	SENSOR, REC
28	X-3595-906-1	REEL ASSY, TAKE-UP
29	X-3595-907-1	REEL ASSY, SUPPLY
30	X-3595-908-1	BASE ASST (B), REEL
31	X-3595-919-1	ARM ASSY, CLUTCH
32	3-595-927-01	GEAR, FF
33	3-595-928-01	BUSHING
34	3-595-929-01	GEAR (C)
35	X-3595-920-1	FLYWHEEL ASSY (S)
36	3-595-930-01	ARM (H), LOCK
37	3-595-931-01	SPACER, CAPSTAN
39	3-595-932-01	LEVER (F), EJECT
40	3-595-933-01	LEVER, BUTTON
41	3-595-998-01	BELT, DRIVE
42	3-595-941-01	IDLER, PLAY
43	3-595-945-01	CUSHION, MOTOR
44	3-595-946-01	SPRING (C)
45	3-595-963-01	SPRING
46	3-595-947-01	SPRING
47	3-595-948-01	SPRING
48	3-595-949-01	SPRING
49	3-595-950-01	SPRING (B)
51	3-595-951-01	SPRING
52	3-595-952-01	SPRING
53	3-595-953-01	SPRING
54	3-595-954-01	SPRING
55	3-595-955-01	SPRING
57	3-595-956-01	SPRING
58	3-595-957-01	SPRING
59	3-595-999-01	SPRING (H)

MECHANISM SECTION

No.	Part No.	Description
60	3-595-959-01	SPRING
61	3-595-916-01	SPRING
62	3-595-964-01	SCREW (A)
63	3-595-965-01	SCREW (B)
64	3-595-966-01	SCREW (C)
65	3-595-967-01	SCREW (D)
69	X-3595-921-1	MOTOR ASSY
72	3-595-969-01	WASHER, POLYSLIDER
73	3-558-708-01	WASHER, STOPPER
74	3-701-437-21	WASHER
75	3-595-970-01	WASHER, OIL STOP
76	7-688-002-11	W 2.6, MIDDLE
77	7-685-781-04	SCREW +PTT 2X4 (S)
78	7-685-790-04	SCREW +PTT 2.6X4 (S)
80	7-685-868-01	TAP TITE SCREW
81	7-685-793-04	SCREW +BVTT 2.6X8 (S)
82	7-621-772-40	SCREW +B 2X8
83	3-595-971-01	SCREW (2X9), BINDING
84	3-595-972-01	SCREW (2X9), WASHER HEAD
85	7-685-792-04	SCREW +PTT 2.6X6 (S)
87	3-595-973-01	SCREW, MOTOR
88	7-624-104-04	STOP RING 2.0, TYPE -E
89	3-595-906-01	BRACKET SOLENOID
93	3-596-010-01	BELT, FR
95	3-596-019-01	BAND, NYLON
96	3-595-919-01	COLLAR
97	7-685-782-01	SCREW +PTT 2X5 (S)
98	X-3595-911-1	HOUSING ASSY
99	3-596-023-01	REC SW BRACKET
100	3-596-011-01	WASHER (B)
102	7-685-783-01	SCREW +PTT 2X6 (S)
103	7-685-864-01	SCREW +BVTT 2.6X10 (S)
104	7-685-791-04	SCREW +PTT 2.6X5 (S)
105	3-596-013-01	WASHER (5.6X0.19), LUMILER
106	7-685-786-01	SCREW +PTT 2X12 (S)
113	7-685-854-01	SCREW +BVTT 2X8 (S)
116	*3-595-918-01	ARM, INTERLOCK
117	3-595-940-01	ARM, AUTO LOCK
118	3-595-939-01	ARM (B), AUTO
119	3-595-937-01	GEAR, AUTO CAM
120	3-595-934-01	BUSHING
121	3-595-936-01	GEAR, AUTO
122	3-595-935-01	PULLEY, AUTO
123	3-595-938-01	CLUTCH, AUTO
124	3-595-944-01	BELT, AUTO
125	3-595-962-01	SPRING
126	3-595-960-01	SPRING
127	3-595-961-01	SPRING
128	3-595-968-01	FELT, AUTO CLUTCH
130	3-701-441-11	WASHER

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*A-2056-318-A	PC BOARD ASSY, AUDIO			
C101	1-162-287-31	CERAMIC	270PF	10%	50V
C102	1-136-157-00	FILM	0.022MF	5%	50V
C103	1-123-330-00	ELECT	22MF	20%	16V
C104	1-162-292-31	CERAMIC	680PF	10%	50V
C105	1-136-157-00	FILM	0.022MF	5%	50V
C106	1-123-330-00	ELECT	22MF	20%	16V
C107	1-136-158-00	FILM	0.027MF	5%	50V
C109	1-124-927-11	ELECT	4.7MF	20%	50V
C110	1-110-203-00	MYLAR	0.0047MF	5%	50V
C111	1-136-173-00	FILM	0.47MF	5%	50V
C112	1-136-167-00	FILM	0.15MF	5%	50V
C113	1-136-155-00	FILM	0.015MF	5%	50V
C114	1-136-169-00	FILM	0.22MF	5%	50V
C115	1-136-163-00	FILM	0.068MF	5%	50V
C116	1-136-161-00	FILM	0.047MF	5%	50V
C117	1-110-205-00	MYLAR	0.0068MF	5%	50V
C118	1-136-153-00	FILM	0.01MF	5%	50V
C119	1-124-903-00	ELECT	1MF	20%	50V
C120	1-124-904-00	ELECT	2.2MF	20%	50V
C121	1-124-183-00	ELECT	2.2MF	20%	50V
C122	1-124-903-00	ELECT	1MF	20%	50V
C123	1-110-205-00	MYLAR	0.0068MF	5%	50V
C124	1-124-899-00	ELECT	22MF	20%	25V
C125	1-136-163-00	FILM	0.068MF	5%	50V
C126	1-124-907-00	ELECT	10MF	20%	50V
C127	1-162-288-31	CERAMIC	330PF	10%	50V
C128	1-136-273-91	FILM	75PF	5%	630V
C129	1-110-198-00	MYLAR	0.0018MF	5%	50V
C130	1-136-153-00	FILM	0.01MF	5%	50V
C131	1-136-155-00	FILM	0.015MF	5%	50V
C132	1-110-206-00	MYLAR	0.0082MF	5%	50V
C133	1-136-153-00	FILM	0.01MF	5%	50V
C134	1-110-206-00	MYLAR	0.0082MF	5%	50V
C135	1-124-903-00	ELECT	1MF	20%	50V
C137	1-162-303-31	CERAMIC	0.0033MF	30%	16V
C138	1-110-198-00	MYLAR	0.0018MF	5%	50V
C191	1-124-927-11	ELECT	4.7MF	20%	50V
C192	1-124-904-00	ELECT	2.2MF	20%	50V
C193	1-124-903-00	ELECT	1MF	20%	50V
C301	1-124-468-11	ELECT	100MF	20%	6.3V
C302	1-124-468-11	ELECT	100MF	20%	6.3V
C303	1-124-468-11	ELECT	100MF	20%	6.3V
C304	1-124-468-11	ELECT	100MF	20%	6.3V
C305	1-129-713-00	FILM	0.0082MF	10%	630V
C306	1-110-206-00	MYLAR	0.0082MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C307	1-110-202-00	MYLAR	0.0039MF	5%	50V
C308	1-110-202-00	MYLAR	0.0039MF	5%	50V
C309	1-124-903-00	ELECT	1MF	20%	50V
C310	1-124-902-00	ELECT	0.47MF	20%	50V
C311	1-124-904-00	ELECT	2.2MF	20%	50V
C312	1-123-332-00	ELECT	47MF	20%	16V
C313	1-136-161-00	FILM	0.047MF	5%	50V
C314	1-123-343-00	ELECT	33MF	20%	25V
C391	1-124-904-00	ELECT	2.2MF	20%	50V
C392	1-124-904-00	ELECT	2.2MF	20%	50V
C401	1-124-903-00	ELECT	1MF	20%	50V
C402	1-162-306-31	CERAMIC	0.01MF	30%	16V
C403	1-124-903-00	ELECT	1MF	20%	50V
C501	1-124-556-11	ELECT	2200MF	20%	16V
C502	1-124-556-11	ELECT	2200MF	20%	16V
C503	1-124-445-00	ELECT	100MF	20%	16V
C504	1-124-445-00	ELECT	100MF	20%	16V
C505	1-124-471-00	ELECT	1000MF	20%	6.3V
C506	1-124-471-00	ELECT	1000MF	20%	6.3V
C507	1-124-899-00	ELECT	22MF	20%	25V
C701	1-124-903-00	ELECT	1MF	20%	50V
C702	1-124-905-11	ELECT	3.3MF	20%	50V
C703	1-124-905-11	ELECT	3.3MF	20%	50V
C704	1-124-903-00	ELECT	1MF	20%	50V
C705	1-124-907-00	ELECT	10MF	20%	50V
C706	1-124-903-00	ELECT	1MF	20%	50V
C707	1-124-903-00	ELECT	1MF	20%	50V
C708	1-162-294-31	CERAMIC	0.001MF	10%	50V
C709	1-124-904-00	ELECT	2.2MF	20%	50V
C710	1-162-306-31	CERAMIC	0.01MF	30%	16V
C711	1-124-902-00	ELECT	0.47MF	20%	50V
C712	1-124-906-11	ELECT	4.7MF	20%	50V
C791	1-124-927-11	ELECT	4.7MF	20%	50V
CNP301	*1-560-061-00	PIN, CONNECTOR 3P			
CNP302	*1-560-064-00	PIN, CONNECTOR 6P			
CNP303	*1-564-505-31	PLUG, CONNECTOR 2P			
CNP304	1-562-068-13	SOCKET, CONNECTOR 13P			
CNP305	*1-564-505-41	PLUG, CONNECTOR 2P			
CNP501	1-562-068-13	SOCKET, CONNECTOR 13P			
CNP701	*1-560-230-00	PIN, CONNECTOR 12P			
CNP702	*1-560-230-00	PIN, CONNECTOR 12P			
CNP703	*1-564-505-11	PLUG, CONNECTOR 2P			
CT301	1-141-225-00	CAP, TUNING, TRIMMER			
D101	1-806-967-11	DIODE (LED BLOCK)			
D102	1-806-968-11	DIODE (LED BLOCK)			
D201	1-806-967-11	DIODE (LED BLOCK)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D202	1-806-968-11	DIODE (LED BLOCK)
D301	8-719-107-94	DIODE 1SS202-1
D302	8-719-107-94	DIODE 1SS202-1
D303	8-719-107-94	DIODE 1SS202-1
D401	8-719-107-94	DIODE 1SS202-1
D501	8-719-200-77	DIODE 10E2N
D502	8-719-200-77	DIODE 10E2N
D503	8-719-200-77	DIODE 10E2N
D504	8-719-200-77	DIODE 10E2N
D505	8-719-910-64	DIODE HZ6B1L
D701	8-719-107-94	DIODE 1SS202-1
D702	8-719-107-94	DIODE 1SS202-1
D703	8-719-107-94	DIODE 1SS202-1
D704	8-719-107-94	DIODE 1SS202-1
D705	8-719-107-94	DIODE 1SS202-1
D706	8-719-107-94	DIODE 1SS202-1
D707	8-719-107-94	DIODE 1SS202-1
D708	8-719-107-94	DIODE 1SS202-1
D709	8-719-107-94	DIODE 1SS202-1
D710	8-719-107-94	DIODE 1SS202-1
D711	8-719-107-94	DIODE 1SS202-1
D712	8-719-107-94	DIODE 1SS202-1
D713	8-719-107-94	DIODE 1SS202-1
D714	8-719-107-94	DIODE 1SS202-1
D715	8-719-107-94	DIODE 1SS202-1
D716	8-719-107-94	DIODE 1SS202-1
D717	8-719-107-94	DIODE 1SS202-1
D718	8-719-107-94	DIODE 1SS202-1
D719	8-719-107-94	DIODE 1SS202-1
D720	8-719-107-94	DIODE 1SS202-1
D721	8-719-107-94	DIODE 1SS202-1
D722	8-719-107-94	DIODE 1SS202-1
D723	8-719-107-94	DIODE 1SS202-1
D724	8-719-107-94	DIODE 1SS202-1
D725	8-719-107-94	DIODE 1SS202-1
D727	8-719-107-94	DIODE 1SS202-1
D728	8-719-107-94	DIODE 1SS202-1
D750	8-719-200-77	DIODE 10E2N
D751	8-719-919-46	DIODE GL-9PR2
D752	8-719-919-46	DIODE GL-9PR2
D753	8-719-812-41	DIODE TLR124
HE101	1-543-261-11	HEAD, ERASE (886-01-24)
HRP101	1-543-363-11	HEAD (REC/PB)
HRP201	1-543-363-11	HEAD (REC/PB)
IC101	8-759-912-79	IC IR2E02
IC201	8-759-912-79	IC IR2E02
IC301	8-759-602-01	IC M5220P
IC302	8-759-602-01	IC M5220P
IC303	8-752-018-70	IC CX20187
IC304	8-759-145-58	IC UPC4558C
IC305	8-759-145-58	IC UPC4558C
IC306	8-759-240-66	IC MB84066B
IC307	8-759-240-66	IC MB84066B

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC401	8-759-600-02	IC M5218L
IC701	8-759-984-11	IC MB84011B
IC702	8-759-984-11	IC MB84011B
IC703	8-759-984-69	IC MB84069UB
IC704	8-759-984-70	IC MB84070B
L101	1-408-923-00	MICRO INDUCTOR 8.2MMH
L102	1-408-919-11	MICRO INDUCTOR 3.9MMH
L103	1-408-929-00	MICRO INDUCTOR 27MMH
L201	1-408-923-00	MICRO INDUCTOR 8.2MMH
L202	1-408-919-11	MICRO INDUCTOR 3.9MMH
L203	1-408-929-00	MICRO INDUCTOR 27MMH
LPF101	1-231-388-00	FILTER, LOW PASS
LPF201	1-231-388-00	FILTER, LOW PASS
PM	1-454-400-11	SOLENOID
PS501⚠	1-532-637-00	LINK, IC
PS502⚠	1-532-637-00	LINK, IC
Q101	8-729-606-33	TRANSISTOR 2SC2603F
Q102	8-729-606-33	TRANSISTOR 2SC2603F
Q103	8-729-606-33	TRANSISTOR 2SC2603F
Q104	8-729-606-33	TRANSISTOR 2SC2603F
Q105	8-729-606-33	TRANSISTOR 2SC2603F
Q106	8-729-606-33	TRANSISTOR 2SC2603F
Q107	8-729-606-33	TRANSISTOR 2SC2603F
Q201	8-729-606-33	TRANSISTOR 2SC2603F
Q202	8-729-606-33	TRANSISTOR 2SC2603F
Q203	8-729-606-33	TRANSISTOR 2SC2603F
Q204	8-729-606-33	TRANSISTOR 2SC2603F
Q205	8-729-606-33	TRANSISTOR 2SC2603F
Q206	8-729-606-33	TRANSISTOR 2SC2603F
Q207	8-729-606-33	TRANSISTOR 2SC2603F
Q301	8-729-900-89	TRANSISTOR DTC144ES
Q302	8-729-900-89	TRANSISTOR DTC144ES
Q303	8-729-117-54	TRANSISTOR 2SA1175
Q304	8-729-117-54	TRANSISTOR 2SA1175
Q305	8-729-117-54	TRANSISTOR 2SA1175
Q306	8-729-606-33	TRANSISTOR 2SC2603F
Q307	8-729-178-54	TRANSISTOR 2SC2785
Q308	8-729-600-28	TRANSISTOR 2SC634SP
Q309	8-729-600-28	TRANSISTOR 2SC634SP
Q310	8-729-117-54	TRANSISTOR 2SA1175
Q501	8-729-107-25	TRANSISTOR 2SD1585-L
Q502	8-729-111-67	TRANSISTOR 2SB1094-L
Q503	8-729-178-54	TRANSISTOR 2SC2785
Q504	8-729-117-54	TRANSISTOR 2SA1175
Q505	8-729-606-33	TRANSISTOR 2SC2603F
Q506	8-729-117-54	TRANSISTOR 2SA1175
Q701	8-729-606-33	TRANSISTOR 2SC2603F
Q702	8-729-801-83	TRANSISTOR 2SB1013
Q704	8-729-900-65	TRANSISTOR DTA144ES
Q705	8-729-900-65	TRANSISTOR DTA144ES
Q706	8-729-900-65	TRANSISTOR DTA144ES
Q707	8-729-606-33	TRANSISTOR 2SC2603F

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R101	1-247-889-00	CARBON	270K	5%	1/6W
R102	1-249-405-11	CARBON	100	5%	1/6W
R103	1-247-882-00	CARBON	130K	5%	1/6W
R104	1-247-849-00	CARBON	5.6K	5%	1/6W
R105	1-249-419-11	CARBON	1.5K	5%	1/6W
R106	1-247-841-00	CARBON	2.7K	5%	1/6W
R107	1-247-887-00	CARBON	220K	5%	1/6W
R108	1-247-889-00	CARBON	270K	5%	1/6W
R109	1-249-405-11	CARBON	100	5%	1/6W
R110	1-247-882-00	CARBON	130K	5%	1/6W
R111	1-247-849-00	CARBON	5.6K	5%	1/6W
R112	1-249-433-11	CARBON	22K	5%	1/6W
R113	1-247-843-00	CARBON	3.3K	5%	1/6W
R114	1-247-851-00	CARBON	6.8K	5%	1/6W
R115	1-247-840-00	CARBON	2.4K	5%	1/6W
R116	1-247-846-00	CARBON	4.3K	5%	1/6W
R117	1-247-822-00	CARBON	430	5%	1/6W
R118	1-247-851-00	CARBON	6.8K	5%	1/6W
R119	1-249-415-11	CARBON	680	5%	1/6W
R120	1-249-421-11	CARBON	2.2K	5%	1/6W
R121	1-247-831-00	CARBON	1K	5%	1/6W
R122	1-249-434-11	CARBON	27K	5%	1/6W
R123	1-247-843-00	CARBON	3.3K	5%	1/6W
R124	1-249-441-11	CARBON	100K	5%	1/6W
R125	1-249-419-11	CARBON	1.5K	5%	1/6W
R126	1-247-872-00	CARBON	51K	5%	1/6W
R127	1-249-441-11	CARBON	100K	5%	1/6W
R128	1-247-859-00	CARBON	15K	5%	1/6W
R129	1-247-859-00	CARBON	15K	5%	1/6W
R130	1-249-429-11	CARBON	10K	5%	1/6W
R131	1-249-429-11	CARBON	10K	5%	1/6W
R136	1-249-429-11	CARBON	10K	5%	1/6W
R137	1-247-849-00	CARBON	5.6K	5%	1/6W
R138	1-247-851-00	CARBON	6.8K	5%	1/6W
R139	1-249-434-11	CARBON	27K	5%	1/6W
R140	1-249-435-11	CARBON	33K	5%	1/6W
R141	1-247-841-00	CARBON	2.7K	5%	1/6W
R142	1-249-433-11	CARBON	22K	5%	1/6W
R143	1-249-433-11	CARBON	22K	5%	1/6W
R144	1-247-815-00	CARBON	220	5%	1/6W
R145	1-247-817-00	CARBON	270	5%	1/6W
R146	1-247-858-00	CARBON	13K	5%	1/6W
R147	1-249-429-11	CARBON	10K	5%	1/6W
R148	1-247-846-00	CARBON	4.3K	5%	1/6W
R149	1-249-433-11	CARBON	22K	5%	1/6W
R150	1-247-819-00	CARBON	330	5%	1/6W
R151	1-247-858-00	CARBON	13K	5%	1/6W
R152	1-247-837-00	CARBON	1.8K	5%	1/6W
R153	1-247-845-00	CARBON	3.9K	5%	1/6W
R154	1-247-846-00	CARBON	4.3K	5%	1/6W
R155	1-247-887-00	CARBON	220K	5%	1/6W
R156	1-247-887-00	CARBON	220K	5%	1/6W
R157	1-247-857-00	CARBON	12K	5%	1/6W
R158	1-249-435-11	CARBON	33K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R161	1-247-843-00	CARBON	3.3K	5%	1/6W	
R162	1-249-429-11	CARBON	10K	5%	1/6W	
R163	1-249-437-11	CARBON	47K	5%	1/6W	
R164	1-247-819-00	CARBON	330	5%	1/6W	
R165	1-249-421-11	CARBON	2.2K	5%	1/6W	
R191	1-249-441-11	CARBON	100K	5%	1/6W	
R192	1-249-433-11	CARBON	22K	5%	1/6W	
R193	1-249-441-11	CARBON	100K	5%	1/6W	
R194	1-249-441-11	CARBON	100K	5%	1/6W	
R195	1-249-429-11	CARBON	10K	5%	1/6W	
R196	1-249-429-11	CARBON	10K	5%	1/6W	
R301	1-247-708-11	CARBON	470	5%	1/4W	
R302	1-247-708-11	CARBON	470	5%	1/4W	
R303	1-247-708-11	CARBON	470	5%	1/4W	
R304	1-247-708-11	CARBON	470	5%	1/4W	
R305	1-249-429-11	CARBON	10K	5%	1/6W	
R306	1-249-437-11	CARBON	47K	5%	1/6W	
R307	1-249-433-11	CARBON	22K	5%	1/6W	
R308	1-249-433-11	CARBON	22K	5%	1/6W	
R309	1-249-433-11	CARBON	22K	5%	1/6W	
R310	1-215-469-00	METAL	100K	1%	1/6W	
R311	1-247-815-00	CARBON	220	5%	1/6W	
R312	1-247-843-00	CARBON	3.3K	5%	1/6W	
R313	1-249-425-11	CARBON	4.7K	5%	1/6W	
R314	1-249-425-11	CARBON	4.7K	5%	1/6W	
R315	1-249-433-11	CARBON	22K	5%	1/6W	
R316	1-249-433-11	CARBON	22K	5%	1/6W	
R317	1-249-433-11	CARBON	22K	5%	1/6W	
R318	1-249-429-11	CARBON	10K	5%	1/6W	
R319	⚠.1-212-857-11	FUSIBLE	10	5%	1/4W	F
R320	1-249-435-11	CARBON	33K	5%	1/6W	
R321	1-249-435-11	CARBON	33K	5%	1/6W	
R322	1-249-429-11	CARBON	10K	5%	1/6W	
R323	1-247-887-00	CARBON	220K	5%	1/6W	
R391	1-247-815-00	CARBON	220	5%	1/6W	
R401	1-249-437-11	CARBON	47K	5%	1/6W	
R402	1-247-823-00	CARBON	470	5%	1/6W	
R403	1-247-875-00	CARBON	68K	5%	1/6W	
R404	1-247-869-00	CARBON	39K	5%	1/6W	
R405	1-247-831-00	CARBON	1K	5%	1/6W	
R406	1-247-862-00	CARBON	20K	5%	1/6W	
R407	1-249-421-11	CARBON	2.2K	5%	1/6W	
R408	1-247-883-00	CARBON	150K	5%	1/6W	
R501	1-247-831-00	CARBON	1K	5%	1/6W	
R502	1-247-831-00	CARBON	1K	5%	1/6W	
R503	1-247-823-00	CARBON	470	5%	1/6W	
R504	1-247-823-00	CARBON	470	5%	1/6W	
R505	1-247-831-00	CARBON	1K	5%	1/6W	
R506	1-247-843-00	CARBON	3.3K	5%	1/6W	
R507	1-247-840-00	CARBON	2.4K	5%	1/6W	
R510	1-247-831-00	CARBON	1K	5%	1/6W	
R701	1-249-429-11	CARBON	10K	5%	1/6W	
R702	1-249-437-11	CARBON	47K	5%	1/6W	
R703	1-249-437-11	CARBON	47K	5%	1/6W	

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R704	1-249-435-11	CARBON	33K	5%	1/6W
R705	1-249-437-11	CARBON	47K	5%	1/6W
R706	1-247-895-00	CARBON	470K	5%	1/6W
R707	1-247-875-00	CARBON	68K	5%	1/6W
R708	1-249-435-11	CARBON	33K	5%	1/6W
R709	1-247-875-00	CARBON	68K	5%	1/6W
R710	1-249-437-11	CARBON	47K	5%	1/6W
R711	1-249-435-11	CARBON	33K	5%	1/6W
R712	1-249-433-11	CARBON	22K	5%	1/6W
R713	1-249-419-11	CARBON	1.5K	5%	1/6W
R714	1-249-437-11	CARBON	47K	5%	1/6W
R715	1-247-887-00	CARBON	220K	5%	1/6W
R716	1-249-433-11	CARBON	22K	5%	1/6W
R717	1-247-891-00	CARBON	330K	5%	1/6W
R718	1-249-435-11	CARBON	33K	5%	1/6W
R719	1-247-889-00	CARBON	270K	5%	1/6W
R720	1-249-435-11	CARBON	33K	5%	1/6W
R721	1-249-435-11	CARBON	33K	5%	1/6W
R722	1-249-435-11	CARBON	33K	5%	1/6W
R723	1-249-435-11	CARBON	33K	5%	1/6W
R724	1-249-435-11	CARBON	33K	5%	1/6W
R725	1-249-435-11	CARBON	33K	5%	1/6W
R726	1-249-435-11	CARBON	33K	5%	1/6W
R727	1-249-414-11	CARBON	560	5%	1/6W
R728	1-249-414-11	CARBON	560	5%	1/6W
R729	1-249-414-11	CARBON	560	5%	1/6W
R730	1-249-425-11	CARBON	4.7K	5%	1/6W
R731	1-249-425-11	CARBON	4.7K	5%	1/6W
R732	1-247-849-00	CARBON	5.6K	5%	1/6W
R734	1-249-429-11	CARBON	10K	5%	1/6W
R735	1-247-849-00	CARBON	5.6K	5%	1/6W
R737	1-249-429-11	CARBON	10K	5%	1/6W
R738	1-247-851-00	CARBON	6.8K	5%	1/6W
R739	1-247-851-00	CARBON	6.8K	5%	1/6W
R740	1-249-425-11	CARBON	4.7K	5%	1/6W
R741	1-247-887-00	CARBON	220K	5%	1/6W
R742	1-247-887-00	CARBON	220K	5%	1/6W
R743	1-247-859-00	CARBON	15K	5%	1/6W
R744	1-249-437-11	CARBON	47K	5%	1/6W
R745	1-249-437-11	CARBON	47K	5%	1/6W
R746	1-249-435-11	CARBON	33K	5%	1/6W
R747	1-249-435-11	CARBON	33K	5%	1/6W
R748	1-249-437-11	CARBON	47K	5%	1/6W
R749	1-249-405-11	CARBON	100	5%	1/6W
R791	1-247-823-00	CARBON	470	5%	1/6W
R792	1-249-429-11	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV101	1-228-989-00	RES, ADJ, CARBON 470
RV102	1-228-989-00	RES, ADJ, CARBON 470
RV103	1-228-994-00	RES, ADJ, CARBON 10K
RV104	1-237-204-21	RES, VAR, SLIDE 20K
RV201	1-228-989-00	RES, ADJ, CARBON 470
RV202	1-228-989-00	RES, ADJ, CARBON 470
RV203	1-228-994-00	RES, ADJ, CARBON 10K
RV204	1-237-204-21	RES, VAR, SLIDE 20K
RV701	1-228-993-00	RES, ADJ, CARBON 4.7K
RV702	1-228-993-00	RES, ADJ, CARBON 4.7K
RV703	1-228-993-00	RES, ADJ, CARBON 4.7K
RV704	1-228-993-00	RES, ADJ, CARBON 4.7K
S301	1-570-531-11	SWITCH, PUSH (2 KEY)(DOLBY NR)
S302	1-570-529-11	SWITCH, PUSH (3 KEY)(TAPE SELECT)
S303	1-554-033-00	SWITCH, SLISE (REC/PB)
S701	1-570-530-11	SWITCH, PUSH (2 KEY)(DUBBING)
S702	1-553-856-00	SWITCH, KEY BOARD (REC MUTE)
S711	1-570-303-11	SWITCH, LEAF (C)(MOTOR)
S712	1-570-302-11	SWITCH, LEAF (B)(FF/REW)
S713	1-570-305-11	SWITCH, LEAF (E)(Cr02)
S714	1-570-304-11	SWITCH, LEAF (D)(PLAY)
S715	1-570-303-11	SWITCH, LEAF (C)(MOTOR)
S716	1-570-302-11	SWITCH, LEAF (B)(FF/REW)
S717	1-570-713-11	SWITCH, LEAF (A)(REC)
S718	1-570-304-11	SWITCH, LEAF (D)(PLAY)
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T301	1-433-303-11	TRANSFORMER, BIAS OSCILLATION
TP701	*1-564-505-31	PLUG, CONNECTOR 2P
TP702	*1-564-505-21	PLUG, CONNECTOR 2P

1999

TC-V50W

SONY

SERVICE MANUAL

AEP Model
UK Model
E Model

SUPPLEMENT-1

File this supplement with the Service Manual.

Information changes in Servdce Mamual for parts list.

Tape Transport Mechanism Type	TCM-50FMSF (DECK A)
	TCM-52FMF (DECK B)

1999

Page 18 ● ☛ : added portion

A DECK

MECHANISM SECTION

No.	Part No.	Description
1	*3-595-901-01	CHASSIS
2	*X-3595-917-1	ARM ASSY, SHIFT
3	*X-3595-902-1	ARM (HT) ASSY, IDLER
6	*3-595-991-01	LEVER, STOP
7	*3-595-904-01	LEVER (H), FF
8	*3-595-905-01	LEVER (H), REW
9	*X-3595-912-1	LEVER (S) ASSY, PLAY
10	3-595-908-01	REC LEVER (BH)
11	*3-595-975-01	CAM (C), LOCK
12	X-3595-914-1	CAM (BS) ASSY, LOCK
13	3-596-021-01	HOLDER, TRIGGER
14	*3-595-912-01	CHASSIS, HEAD
☛ 15	*3-595-995-01	BRACKET, FLYWHEEL
16	*3-596-024-01	HOLDER, MOTOR
17	3-596-020-01	HOLDER (SON), BUTTON
18	X-3595-913-1	ARM ASSY, RC
19	*3-595-976-01	CAM (S), LOCK
20	*3-595-913-01	PROTECTOR, SWITCH
21	*3-595-906-01	BRACKET, SOLENOID
22	X-3595-915-1	ARM (N) ASSY, RC LOCK
23	*3-595-977-01	ARM, TRIGGER
24	3-595-919-01	COLLAR
25	*3-595-920-01	SHAFT, BUTTON
☛ 26	X-3595-923-1	MOTOR ASSY (W/PULLEY)
27	3-595-979-01	SHAFT, CHIP
28	*3-596-018-01	COLLAR , BUTTON
29	3-595-922-01	HOLDER (A), LEVER
30	3-595-923-01	HOLDER (B), LEVER
32	*3-595-926-01	BASE, HEAD
33	X-3595-905-1	ARM ASSY, P ROLLER
35	X-3595-906-1	REEL ASSY, TAKE-UP
36	X-3595-907-1	REEL ASSY, SUPPLY
37	X-3595-908-1	BASE ASST (B), REEL
38	3-595-927-01	GEAR, FF
39	3-595-928-01	BUSHING
40	X-3595-919-1	ARM ASSY, CLUTCH
41	3-595-929-01	GEAR (C)
42	X-3595-920-1	FLYWHEEL ASSY (S)
43	3-595-930-01	ARM (H), LOCK
44	3-595-931-01	SPACER, CAPSTAN
45	3-595-932-01	LEVER (F), EJECT
46	3-595-933-01	LEVER, BUTTON
47	3-595-935-01	PULLEY, AUTO
48	3-595-936-01	GEAR, AUTO
49	3-595-937-01	GEAR, AUTO CAM
50	3-595-938-01	CLUTCH, AUTO
51	3-595-939-01	ARM (B), AUTO
52	3-595-940-01	ARM, AUTO LOCK
53	3-595-934-01	BUSHING
57	3-595-980-01	ARM, SOLENOID
59	X-3595-911-1	HOUSING ASSY
60	3-595-941-01	IDLER, PLAY
61	3-595-945-01	CUSHION, MOTOR
62	3-595-998-01	BELT, DRIVE
63	3-596-010-01	BELT, FR
64	3-595-944-01	BELT, AUTO

MECHANISM SECTION

No.	Part No.	Description
68	3-595-946-01	SPRING (C)
69	3-595-947-01	SPRING
70	3-595-948-01	SPRING
71	3-595-949-01	SPRING
72	3-595-950-01	SPRING (B)
73	3-595-951-01	SPRING
75	3-595-953-01	SPRING
76	3-595-954-01	SPRING
77	3-595-955-01	SPRING
78	3-595-956-01	SPRING
79	3-595-957-01	SPRING
80	3-595-999-01	LOCK ARM SPRING
81	3-595-959-01	SPRING
82	3-595-963-01	SPRING
83	3-595-916-01	SPRING
84	3-595-960-01	SPRING
85	3-595-961-01	SPRING
86	3-595-962-01	SPRING
88	3-595-985-01	SPRING
89	3-595-981-01	SPRING
90	3-595-982-01	SPRING
91	3-595-984-01	SPRING (H)
☛ 99	*3-681-432-01	CLAMP, CORD
100	3-595-968-01	FELT, AUTO CLUTCH
103	*3-595-986-01	GUIDE, TAPE
109	3-595-964-01	SCREW (A)
110	3-595-965-01	SCREW (B)
111	3-595-966-01	SCREW (C)
112	3-595-967-01	SCREW (D)
☛ 114	3-701-440-01	WASHER
115	3-558-708-01	WASHER, STOPPER
116	3-595-969-01	WASHER, POLYSLIDER
117	3-701-437-21	WASHER
119	7-688-002-11	W 2.6, MIDDLE
☛ 120	3-558-708-11	WASHER, OIL STOP
121	3-701-439-01	WASHER
☛ 123	7-685-781-01	SCREW +PTT 2X4 (S)
124	7-685-782-01	SCREW +PTT 2X5 (S)
125	7-685-784-01	TAP TITE SCREW
126	7-685-786-01	SCREW +PTT 2X12 (S)
☛ 127	7-685-790-01	SCREW +PTT 2.6X4 (S)
☛ 129	7-685-863-01	SCREW +BVTT 2.6X8 (S)
☛ 131	3-596-006-01	TAP TITE SCREW
132	7-621-772-40	SCREW +B 2X8
☛ 133	3-595-938-01	SCREW (2X8.5), BINDING
134	3-595-972-01	SCREW (2X9), WASHER HEAD
☛ 136	7-685-792-01	SCREW +PTT 2.6X6 (S)
☛ 137	3-515-973-01	SCREW, MOTOR
138	7-624-104-04	STOP RING 2.0, TYPE -E
139	7-685-783-01	SCREW +PTT 2X6 (S)
140	7-685-864-01	SCREW +BVTT 2.6X10 (S)
☛ 142	7-685-791-01	SCREW +PTT 2.6X5 (S)
143	3-596-011-01	WASHER (B)
144	3-596-022-01	SEAL, RC LOCK ARM
146	3-596-013-01	WASHER (5.6X0.19), LUMILER

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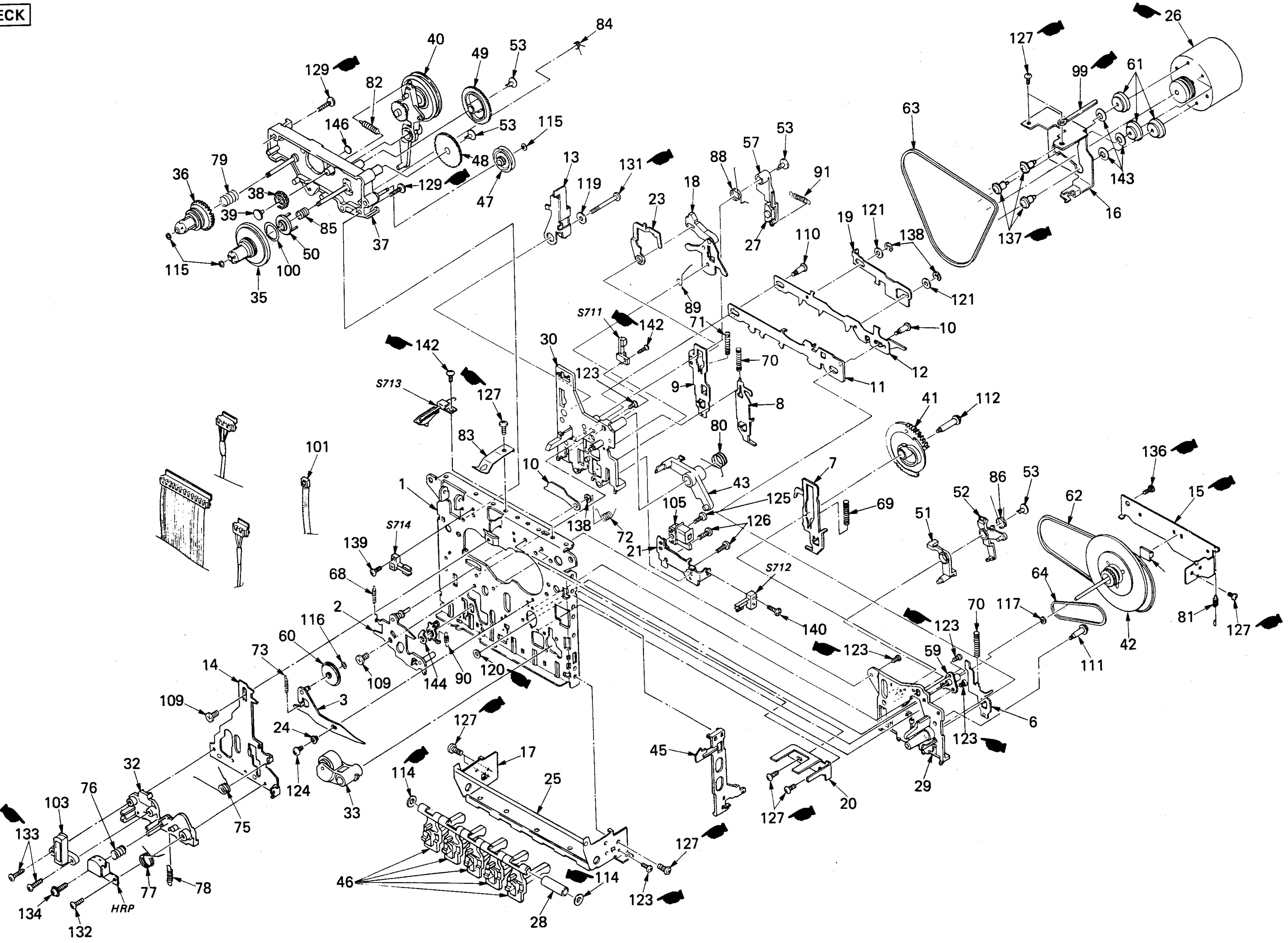
5-3. A DECK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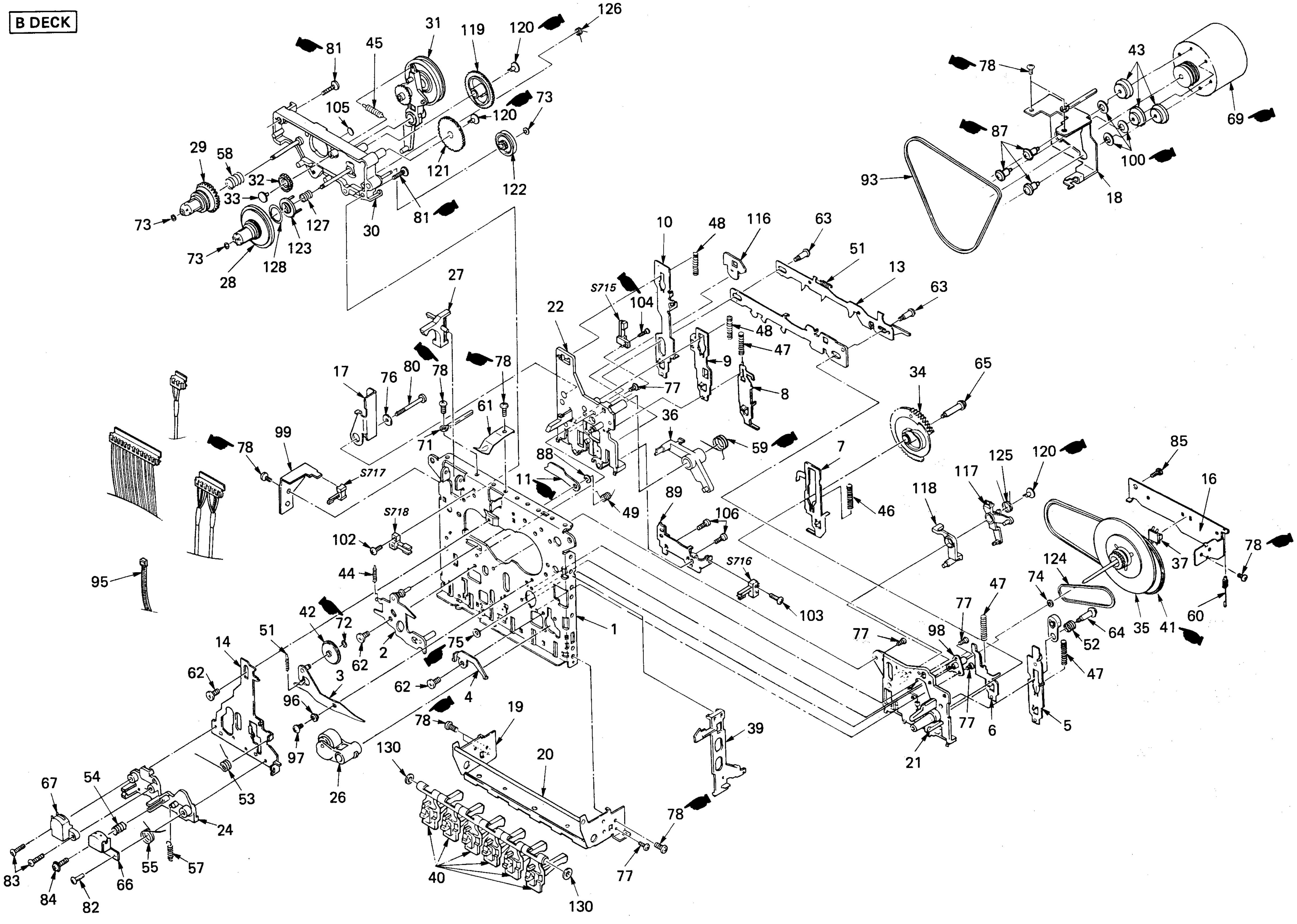
5-4. B DECK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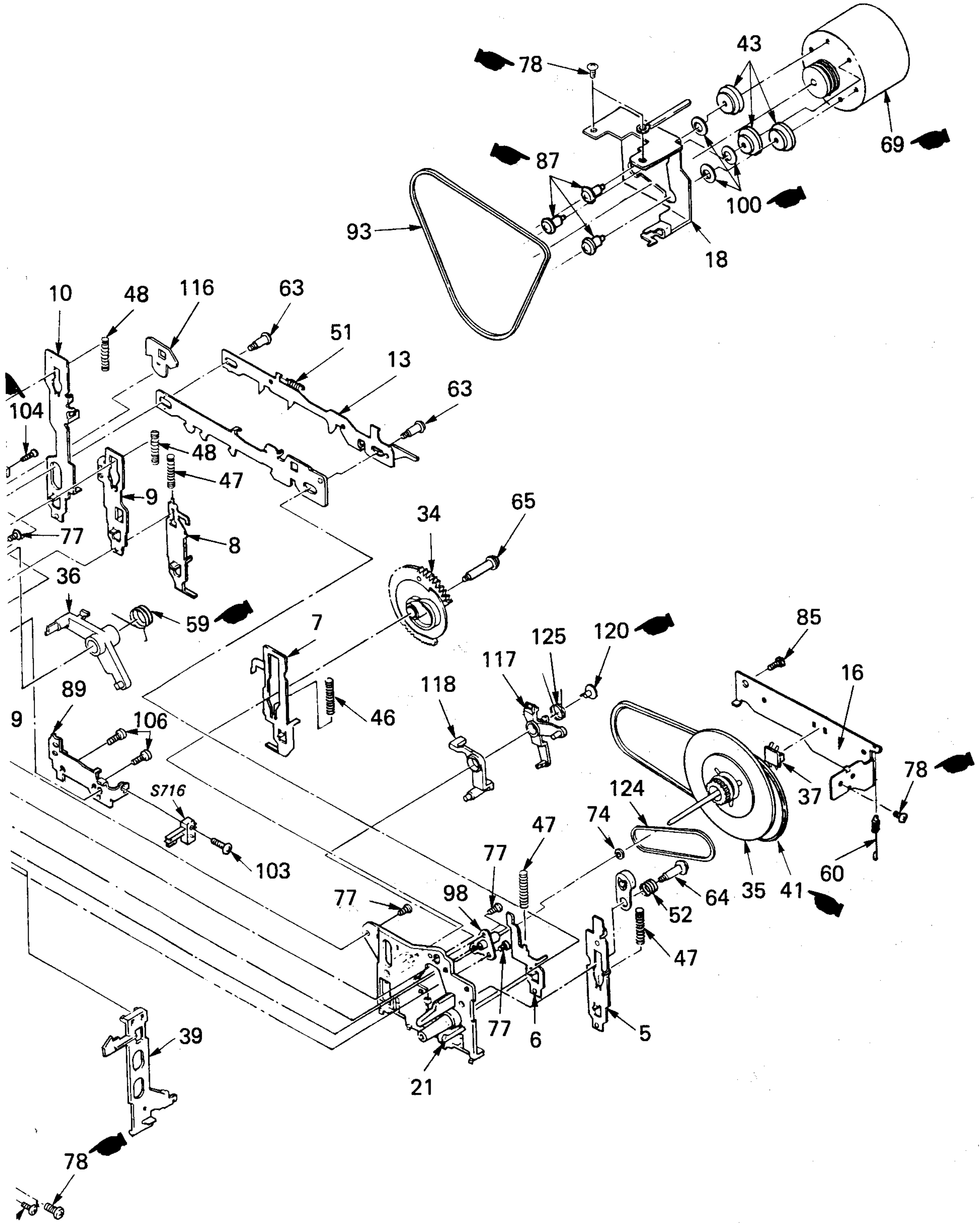

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B DECK

MECHANISM SECTION

No.	Part No.	Description
1	*3-595-901-01	CHASSIS
2	*X-3595-917-1	ARM ASSY, SHIFT
3	*X-3595-902-1	ARM (HT) ASSY, IDLER
4	*3-595-902-01	ARM, PAUSE
5	*X-3595-903-1	LEVER (B) ASSY, PAUSE
6	*3-595-991-01	LEVER, STOP
7	*3-595-904-01	LEVER (H), FF
8	*3-595-905-01	LEVER (H), REW
9	*3-595-909-01	LEVER (B), PLAY
10	*3-595-992-01	LEVER (C), REC
☛11	*3-595-907-01	LEVER (BH), REC
12	*3-595-910-01	CAM (A), LOCK
13	*X-3595-904-1	CAM (B) ASSY, LOCK
14	*3-595-912-01	CHASSIS, HEAD
16	*3-595-993-01	BRACKET, FLYWHEEL
17	*3-595-994-01	ARM, REC
18	3-596-024-01	HOLDER, MOTOR
19	3-596-020-01	HOLDER (SON), BUTTON
20	*3-595-920-01	SHAFT, BUTTON
21	3-595-922-01	HOLDER (A), LEVER
22	3-595-923-01	HOLDER (B), LEVER
23	3-595-924-01	CAM, PAUSE
24	*3-595-926-01	BASE, HEAD
26	X-3595-905-1	ARM ASSY, P ROLLER
27	3-595-925-01	SENSOR, REC
28	X-3595-906-1	REEL ASSY, TAKE-UP
29	X-3595-907-1	REEL ASSY, SUPPLY
30	X-3595-908-1	BASE ASST (B), REEL
31	X-3595-919-1	ARM ASSY, CLUTCH
32	3-595-927-01	GEAR, FF
33	3-595-928-01	BUSHING
34	3-595-929-01	GEAR (C)
35	X-3595-920-1	FLYWHEEL ASSY (S)
36	3-595-930-01	ARM (H), LOCK
37	3-595-931-01	SPACER, CAPSTAN
39	3-595-932-01	LEVER (F), EJECT
40	3-595-933-01	LEVER, BUTTON
☛41	3-595-942-01	BELT, DRIVE
42	3-595-941-01	IDLER, PLAY
43	3-595-945-01	CUSHION, MOTOR
44	3-595-946-01	SPRING (C)
45	3-595-963-01	SPRING
46	3-595-947-01	SPRING
47	3-595-948-01	SPRING
48	3-595-949-01	SPRING
49	3-595-950-01	SPRING (B)
51	3-595-951-01	SPRING
52	3-595-952-01	SPRING
53	3-595-953-01	SPRING
54	3-595-954-01	SPRING
55	3-595-955-01	SPRING
57	3-595-956-01	SPRING
58	3-595-957-01	SPRING
☛59	3-595-983-01	SPRING (H)

MECHANISM SECTION

No.	Part No.	Description
60	3-595-959-01	SPRING
61	3-595-916-01	SPRING
62	3-595-964-01	SCREW (A)
63	3-595-965-01	SCREW (B)
64	3-595-966-01	SCREW (C)
65	3-595-967-01	SCREW (D)
☛69	X-3595-923-1	MOTOR ASSY (W/PULLEY)
☛72	3-558-969-11	WASHER, POLISLIDER
73	3-558-708-01	WASHER, STOPPER
74	3-701-437-21	WASHER
☛75	3-558-708-11	WASHER, OIL STOP
76	7-688-002-11	W 2.6, MIDDLE
77	7-685-781-04	SCREW +PTT 2X4 (S)
☛78	7-685-790-04	SCREW +PTT 2.6X4 (S)
80	7-685-868-01	TAP TITE SCREW
☛81	7-685-863-01	SCREW +BVTT 2.6X8 (S)
82	7-621-772-40	SCREW +B 2X8
83	3-595-971-01	SCREW (2X9), BINDING
84	3-595-972-01	SCREW (2X9), WASHER HEAD
85	7-685-792-04	SCREW +PTT 2.6X6 (S)
☛87	3-515-973-01	SCREW, MOTOR
88	7-624-104-04	STOP RING 2.0, TYPE -E
89	3-595-906-01	BRACKET SOLENOID
93	3-596-010-01	BELT, FR
95	3-596-019-01	BAND, NYLON
96	3-595-919-01	COLLAR
97	7-685-782-01	SCREW +PTT 2X5 (S)
98	X-3595-911-1	HOUSING ASSY
99	3-596-023-01	REC SW BRACKET
☛100	3-595-011-01	WASHER (B)
102	7-685-783-01	SCREW +PTT 2X6 (S)
103	7-685-864-01	SCREW +BVTT 2.6X10 (S)
☛104	7-685-791-01	SCREW +PTT 2.6X5 (S)
105	3-596-013-01	WASHER (5.6X0.19), LUMILER
106	7-685-786-01	SCREW +PTT 2X12 (S)
113	7-685-854-01	SCREW +BVTT 2X8 (S)
116	*3-595-918-01	ARM, INTERLOCK
117	3-595-940-01	ARM, AUTO LOCK
118	3-595-939-01	ARM (B), AUTO
119	3-595-937-01	GEAR, AUTO CAM
☛120	3-595-928-01	BUSHING
121	3-595-936-01	GEAR, AUTO
122	3-595-935-01	PULLEY, AUTO
123	3-595-938-01	CLUTCH, AUTO
124	3-595-944-01	BELT, AUTO
125	3-595-962-01	SPRING
126	3-595-960-01	SPRING
127	3-595-961-01	SPRING
128	3-595-968-01	FELT, AUTO CLUTCH
130	3-701-441-11	WASHER

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